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Achievement, Engagement, and Behavior Outcomes of At-Risk Youth Following Participation in a Required Ninth-Grade Academic Support Study Center Program

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By

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Abstract

ACHIEVEMENT, ENGAGEMENT, AND BEHAVIOR OUTCOMES OF AT-RISK YOUTH FOLLOWING PARTICIPATION IN A REQUIRED NINTH-GRADE ACADEMIC SUPPORT STUDY CENTER PROGRAM

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University of Nebraska, 2012

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Overall, pretest-posttest results for achievement, behavior, and engagement for at-risk boys not eligible (n = 13) and eligible (n = 9) for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different over time and end of school year for cumulative grade point average scores, pre-ACT scores for English, math, reading, science, and composite, total credits earned, and participation in school sponsored activities. However, at-risk boys eligible for participation in the free or reduced price lunch program had statistically significantly lower total posttest office referral frequencies and at-risk boys not eligible for participation in the free or reduced price lunch program had statistically significantly lower total posttest days absent frequencies. Overall, pretest-posttest results for achievement, behavior, and engagement for at-risk girls not eligible (n = 7) and eligible (n = 10) for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were statistically different over time and end of school year for cumulative grade point average scores. Girls not eligible for participation in the free or reduced price lunch program had significantly lower posttest pre-ACT English scores. Furthermore, no statistical differences were found for

total credits earned, pre-ACT math, reading, science, and composite scores, total office referral frequencies, attendance frequencies, and participation in school sponsored activities. No posttest-posttest statistical differences between the four student groups were observed. Statistical equipoise indicates that the school-year long academic support study center program was mutually beneficial for all study subjects helping them to stay out of trouble, stay in school, and maintain academic progress consistent with on-time graduation.

Acknowledgements

When I started this journey almost ten years ago I never thought it be one that started and stopped so frequently. As life, relationships, and my career changed and kids got older and more involved in sports, dance, activities, etc. there never seemed to be enough time to make all of it work. I am proud to say that through the distractions, changes in life, and schedules I am finally completing my dissertation.

Completing a dissertation would be difficult if not impossible save for the support, love, patience, and encouragement of friends, colleagues, and most importantly, family. I would like to take this opportunity to thank all of those who gave of themselves, in ways both large and small, to make this possible.

First, I would like to thank all of my professors at the University of Nebraska. There are simply too many individuals that had a part in my journey to recognize or thank them all individually. The instruction, guidance, and discussions I had throughout my doctoral program were excellent. I would like to thank Dr. Kay Kaiser for fanning the spark that got me back on track and started in the right direction after many months of being away from school. Mrs. Barb Mraz was instrumental in reading my work, making suggestions, pointing out mistakes and being so warm and inviting whenever I made the trek to UNO, needed a parking tag, called with a question, or sent an email. To Dr. John Hill, in particular, for his guidance, his knowledge of statistics, his thought provoking discussions and for his sense of humor. The numerous hours sitting next to Dr. Hill and banging away on the computer will be remembered forever.

Second, I would like to recognize the individuals at the Westside Community Schools who I consider both colleagues and friends. There was so much support from so

many people that made completing this dissertation possible. With the cohort of Kent Kingston, Eric Weber, and Tony Weers working on their own dissertations it allowed me to discuss format, content and data with them as we proceeded through the process. Dr. Ruprecht and Dr. Rikli provided the "you can do it" speech when needed and were supportive throughout. The administration team at Westside High School, including Pat Hutchings, Maryanne Ricketts, Trudi Nolin, Tom Kerkman, Tony Weers and Eric Sagert allowed me time to work on my dissertation, covered for me when I spent my day at UNO, and were a strong support system.

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And finally, to the person who has been there with me through all of it, my wife Deanna. The frustrations, headaches, complaints, late hours, and time away from home all seemed so trivial when I talked with her. She helped keep me focused, gave me suggestions, read my ramblings, provided a sounding board and most importantly loved me through all of it. Her confidence and belief in me kept pushing me along. She is the best friend, cheerleader and partner I could ever have.

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CHAPTER ONE

Introduction

The Cost of Leaving High School Before Graduation

When students drop out of high school the impact on the quality of their lives, as well as the impact they have on their communities, and therefore the nation as a whole, is more often than not negatively significant (Kennelly & Monrad, 2007). If the dropout rate remains the same for the next ten years, and it has remained largely unchanged for the last 30 years, it will result in a three trillion dollar loss to our nation (Balfanz, Fox, Bridgeland, & McNaught, 2009). A recent report by America's Promise predicts that by increasing the number of high school graduates by 15% would, through improved life courses and productive employment generate almost $45 billion annually in new tax revenue (Neild, 2009). For example, the average income of persons ages 18 through 65 who had not completed high school was roughly $21,000 in 2006. By comparison, the average income of individuals, ages 18 through 65 who completed their education with a high school credential, including General Educational Development (GED) certificate, was over $31,400 (Davis & Bauman, 2008). Individuals who do not complete high school are also more likely to become chemically dependent on alcohol and drugs, have poor nutrition, receive welfare, and be incarcerated as juvenile offenders (Afterschool Alliance, 2009; Kennelly & Monrad, 2007; Stanard, 2003). High school graduates, on the other hand are more likely to participate in post-secondary education, both college and technical school, experience career advancement, and enjoy greater economic stability (Balfanz et al., 2009; Barton, 2005). Even students who do not graduate, but attend high school for several years have increased benefits. According to the National

Research Council each year a student attends high school decrease the chances they will receive welfare by almost 35% (McIntosh, Flannery, Sugai, Braun, & Cochrane, 2008).

The need for intervention. Twenty years ago many school districts utilized a *treatment to do nothing* strategy for at-risk students focusing resources and efforts primarily on college bound students (Hill, 1989). Surveys indicate school personnel feel parents, the system as a whole, or society in general are mainly responsible for students dropping out (Bridgeland, Dilulio, & Balfanz, 2009). In fact there are many interventions and strategies schools should be doing to help increase the number of students graduating high school. Increasing expectations for students who are at-risk of dropping does not appeal to most educators, although this is in contrast to surveys of dropouts who felt higher demands and expecting more from them may have kept them in school (Bridgeland et al., 2009). While there have been some improvements made in identifying and providing learning alternatives for at-risk students, these improvements have not resulted in improved graduation rates (Barton, 2005; Knesting, 2008). Despite recent attention to decreasing the drop out rate and focusing resources and interventions to at-risk students about one-third of all public school students and almost half of all minority students do not graduate with their class (Balfanz et al., 2009). Moreover, there is agreement that at-risk prevention is predicated upon helping students build a foundation of engagement and success particularly during the ninth-grade when too many students decide to disengage (Afterschool Alliance, 2009; Barton, 2009). Studies show that dropping out of school is seldom related to one single event but is more a compilation of events over many years (Afterschool Alliance, 2009). While there are many characteristics, attributed to predicting what type of student is likely to drop out, the

research seems to agree that schools need to identify students who receive failing grades in core subjects, have poor attendance, fail to earn sufficient credits to be promoted to the next grade level and do not participate in school activities (Center for Comprehensive School Reform and Improvement, 2008; Heppen & Therriault, 2008; Hill, 1989). A study by Allensworth and Easton (2007) identified two *on-track* indicators that most clearly predicted the success of ninth-grade students (a) failure in core academic courses and (b) the overall number of credits earned. Furthermore, most dropouts cited a school related issue as being the biggest reason they dropped out. Excessive absences, low grades, being credit deficient after ninth-grade, the feeling that getting a GED would be easier, and generally not liking school were the most frequent reasons given (Dalton, Glennie, & Ingels, 2009). According to the Digest of Educational Statistics (2008) Nebraska public schools show an average freshman graduation rate at 87.0%. The average freshman graduation rate provides an estimate of the percentage of students who receive a regular high school diploma within four years of entering high school. Eighty-seven percent of Nebraska students in the class of 2005-06 graduated on time. However, nationally only 73.4% of the United States public school students graduated in four years or less in 2005-06 (Snyder, Dillow, & Hoffman, 2008).

Transition to high school. The transition to a new level of education can also be a trying time for students. In most cases the transition from eighth-grade to ninth-grade requires a student to move to a different building, be in classes with new peers, adapt to a new schedule, and face new challenges (Cushman, 2006; Mizelle, 2005; Neild, Stoner-Eby, & Furstenberg, 2008). This is usually the student's first exposure to departmentalized curriculum, tracking in multiple classes, grade point average

implications, class rankings, earning credits that can determine future paths, and the constant reminder of graduation requirements (Benner & Graham, 2009). There may also be more freedom within the schedule, reduced parental supervision and increased peer pressure (Neild, 2009). There is more evidence that the transition into high school increases disengagement and decreases motivation especially among low performing, or at-risk, students (Herlihy, 2007). These changes in structure and environment can create a difficult situation for some freshmen. For example, in high schools with a modular schedule students meet for different classes at different times and these classes may also meet for different lengths of time during alternating weeks (Mowen & Mowen, 2004). There may also be independent study mods, or periods, in which students are not assigned to a class, but may move freely throughout the building from one instructional area to another. While this system works well for many students it may not provide enough structure for others (Canady & Rettig, 1995). At Wausau West High School in Wisconsin, the modular, or flex mod, schedule results in free time intended for students self-directed and independent study. However, unstructured time for some students may have the unintended consequence of increasing the chances that the student skips their classes, failing to complete assignments, and not using their time wisely (Murray, 2008). Extra attention and focus needs to be given to those students who may not fit neatly into an overly open school program so that they may learn how to take advantage of the flexible schedule designed to support their self-directed learning (Murray, 2008). Early intervention, especially for at-risk students, may be the key ingredient to decrease the number of students not completing high school (Neild, Stoner-Eby, & Furstenburg,

2008). With additional support, encouragement, mentoring, and structure ninth-grade need not be the make-or-break school year for so many students at-risk (Herilihy, 2007).

Purpose of the Study

The purpose of this study is to determine the impact of participation in a required school year-long, academic support study center program, on the achievement, behavior, and school engagement outcomes of ninth-grade boys at-risk and eligible or not for free and reduced price lunch program participation compared to the achievement, behavior, and school engagement outcomes of ninth-grade girls at-risk and eligible or not for free and reduced price lunch program participation.

Research Questions

The following research questions will be used to analyze grade point average scores in male and female students eligible for free or reduced lunch program and not eligible for free or reduced lunch program following required participation in a school-year-long, academic support study center program.

Overarching Pretest-Posttest Grade Point Average Research Question #1. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or

improve their ending eighth-grade pretest compared to ending ninth-grade posttest cumulative grade point average scores?

Sub-Question 1a. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve pretest ending eighth-grade compared to posttest ending ninth-grade cumulative grade point average scores?

Sub-Question 1b. Do ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve pretest ending eighth-grade compared to posttest ending ninth-grade cumulative grade point average scores?

Sub-Question 1c. Do ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve pretest ending eighth-grade compared to posttest ending ninth-grade cumulative grade point average scores?

Sub-Question 1d. Do ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve pretest ending eighth-grade compared to posttest ending ninth-grade cumulative grade point average scores?

Overarching Posttest-Posttest Grade Point Average Research Question #2. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program have congruent or different ending ninth-grade posttest compared to ending ninth-grade posttest cumulative grade point average scores?

Sub-Question 2a. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade posttest compared to ending ninth-grade posttest cumulative grade point average scores?

The following research questions will be used to analyze total credits earned in male and female students eligible for free or reduced lunch program and not eligible for free or reduced lunch program following required participation in a school-year-long, academic support study center program.

Overarching Posttest-Posttest Total Credits Earned Research Question #3. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program have congruent or different ending ninth-grade posttest compared to ending ninth-grade posttest total credits earned?

Sub-Question 3a. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade posttest compared to ending ninth-grade posttest total credits earned?

The following research questions will be used to analyze student achievement as measured by norm-referenced achievement Normal Curve Equivalent (NCE) scores for English, math, reading, science, and composite end of eighth-grade EXPLORE test and end of ninth-grade PLAN test scores in male and female students eligible for free or

reduced lunch program and not eligible for free or reduced lunch program following required participation in a school-year-long, academic support study center program.

Overarching Pretest-Posttest Norm Referenced Test Scores Research Question #4. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Sub-Question 4a. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Sub-Question 4b. Do ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN

posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Sub-Question 4c. Do ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Sub-Question 4d. Do ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Overarching Posttest-Posttest Norm Referenced Test Scores Research Question #5. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program have congruent or different ending ninth-grade PLAN posttest compared to ending ninth-grade PLAN

posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Sub-Question 5a. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade PLAN posttest compared to ending ninth-grade PLAN posttest their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

The following research questions were used to analyze behavior as measured by cumulative end of the year (a) office referrals and (b) days absent from school in male and female students eligible for free or reduced lunch program and not eligible for free or reduced lunch program following required participation in a school-year-long, academic support study center program.

Overarching Pretest-Posttest Total Behavior Research Question #6. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced

price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade pretest compared to ending ninth-grade posttest (a) office referrals and (b) total days absent from school?

Sub-Question 6a. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade pretest compared to ending ninth-grade posttest total office referrals?

Sub-Question 6b. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade pretest compared to ending ninth-grade posttest total days absent from school?

Overarching Posttest-Posttest Total Behavior Research Question #7. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program have congruent or different ending ninth-grade posttest compared to ending ninth-grade posttest (a) office referrals and (b) total days absent from school?

Sub-Question 7a. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade posttest compared to ending ninth-grade posttest total office referrals?

Sub-Question 7b. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined

to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade posttest compared to ending ninth-grade posttest total days absent from school?

The following research questions were used to analyze school engagement as measured by total participation in school sponsored extra curricular activities, athletics, and clubs in male and female students eligible for free or reduced lunch program and not eligible for free or reduced lunch program following required participation in a school-year-long, academic support study center program.

Overarching Pretest-Posttest School Engagement Research Question #8. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade pretest compared to ending ninth-grade posttest as measured by total participation in school sponsored extra curricular activities, athletics, and clubs?

Sub-Question 8a. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve

their ending eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Sub-Question 8b. Do ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Sub-Question 8c. Do ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Sub-Question 8d. Do ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Overarching Posttest-Posttest School Engagement Research Question #9. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for

participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program have congruent or different ending ninth-grade posttest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Sub-Question 9a. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade posttest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Assumptions

The study has several strong features including (a) all students participating in the study were housed in the same school building; (b) all students were subject to the same district-approved curriculum and assessments; (c) all students had equal access to all materials and resources within the school district; and (d) all students were enrolled in the study center during all independent study periods. Participating students received on-going academic support through a full time study center teacher and classroom teachers assigned to the study center. All teachers assigned to the study center were classroom

teachers who had predominantly freshmen level courses and who were familiar with the freshmen curriculum.

Delimitations of the Study

This study was delimited to students pre-identified from middle school and enrolled in the freshmen student study center. The assessment, behavior, and engagement findings were collected during the spring of 2007 and fall of 2009. Ninth-grade students are required to participate in the research school district's testing program which includes the ending eighth-grade EXPLORE pretest and the ending ninth-grade PLAN posttest norm referenced achievement tests.

Limitations of the Study

This exploratory study was confined to a predetermined group of at-risk ninth-grade students during one school year and consisted of four independent research arms. The first arm is a naturally formed group of ninth-grade boys (n = 13), determined to be at-risk who are not eligible for participation in the free or reduced price lunch program. The second arm is a naturally formed group of ninth-grade boys (n = 9) determined to be at-risk who are eligible for participation in the free or reduced price lunch program. The third arm is a naturally formed group of ninth-grade girls (n = 7) determined to be at-risk who are not eligible for participation in the free or reduced price lunch program. The final arm is a naturally formed group of ninth-grade girls (n = 10) determined to be at-risk who are eligible for participation in the free or reduced price lunch program.

Definition of Terms

Academic achievement data. Academic achievement data include performance on six separate measurements: The EXPLORE and PLAN posttests (a) English, (b) math,

(c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test. Students' grade point average and percentage of classes passed will also be collected.

Academic Support Study Center. At-risk ninth-grade students were assigned to the Academic Support Study Center during their 40-minute independent study periods. The Academic Support Study Center is staffed with one full time teacher and a full time aide. Also one classroom teacher, from a freshmen level course, is assigned each period to provide academic tutorial support.

Advisor. An advisor is a teacher with homeroom students in which the teacher provides guidance, advice, answers questions, helps students select courses, and makes them feel comfortable with school.

Affective engagement. Affective engagement is how a student feels about school, their attitudes towards school and teachers, the level of interest, and their perceptions of the learning environment.

Assessment. Assessment is defined as a process of collecting data for the purposes of making decisions about individuals and groups.

At-risk students. At-risk students are defined as students who are at-risk of failing to experience success at school, and therefore complete high school, for various reasons. The term can be used to describe a wide variety of students, including: ethnic minorities, academically disadvantaged students, disabled students, and students from low socioeconomic status.

Attendance. Attendance is defined as the frequency with which a student is present in school. In this study attendance was counted on a per student basis utilizing the PowerSchool student information database.

Authoritarian teaching style. Authoritarian teaching style refers to a teacher who expects complete obedience from students and imposes control on the classroom situation through rules and procedures that must be followed (Thijs & Verkuyten, 2009).

Authoritative teaching style. Authoritative teaching style refers to a teacher who has a high level of structure, but also a high level of involvement and participation by students (Thijs & Verkuyten, 2009).

Behavioral data. Behavioral data include absences and discipline referral information for each participant. These two behavioral dependent measures are a direct result of the participants' behavior and are uniformly collected and recorded by school personnel and available in the PowerSchool student information database.

Behavioral engagement. Behavioral engagement refers to student conduct such as following school and classroom rules, being involved in classroom discussions and work, and participation in extra curricular activities.

Cognitive engagement. Cognitive engagement refers to the depth of processing by a student and their ability to comprehend and analyze material, information, and data. It also consists of self-regulatory strategies such as memorization, task completion, and problem solving.

Credits. Credits are earned in each course if a student successfully completes the course with a grade higher then an "F". Earned credits vary from one to five, with most courses receiving three to five credits.

Credit deficient. Credit deficient means not meeting the minimal credits earned standard for a particular grade level. Students who are credit deficient are behind in credits earned and may delay graduation.

Curriculum. Curriculum is a set of courses and their outcomes, indicators, and essential learnings that comprise the content that is taught.

Discipline referral information. Discipline referral information was derived from data collected on the district's student code of conduct as entered into the PowerSchool student information database.

Disengaged. Disengaged means detaching from school, disconnecting from its norms and expectations, reducing effort and involvement at school, and withdrawing from a commitment to school and to school completion (Balfanz, Herzog, Mac Iver, 2007).

Dropout. A dropout is a student who leaves high school without receiving a regular diploma and does not return to school or complete a GED program within four years of starting the ninth-grade.

Engagement data. Engagement data includes student participation in arts, sports, clubs, and student government activities. These four engagement dependent measures are recorded and available in the PowerSchool student information database.

Evaluate. To evaluate is to determine the value, effectiveness, or condition of a particular item, program, or strategy.

EXPLORE. The EXPLORE achievement test is given at the end of the eighth-grade year and measures achievement in English, reading, mathematics, and science. The EXPLORE test is a traditional standardized, norm referenced assessment series that provides comprehensive evaluation of student achievement and provides a predictive index for the ACT and a students readiness for high school coursework.

Free or reduced lunch participation. Students meeting federally defined guidelines for family income qualify for reduced price lunch or free lunch. These students are typically defined as lower socio-economic.

Grade point average (GPA). An acronym for grade point average, the GPA provides a snapshot of a student's overall academic performance. For the purposes of this study, an "A" equals four points, a "B" is three points, a "C" is two points, a "D" is one point, and an "F" equals no points.

General Education Development (GED). General education development is the process of earning a certificate or credential that is supposed to be equivalent to earning a high school diploma. The student must attend classes, studying subject area content and pass a cumulative test.

Homework. Homework is assigned class work given in a particular course that is to be completed at home or in a setting away from the classroom with no direct teacher input.

In-school suspension. In-school suspension is a form of suspension from the regular school day that keeps the student in the building working on assignments under the supervision of an in-school suspension supervisor.

Institutional characteristics. Institutional characteristics are the descriptive features of a school such as size of the building, population, grade level, type of schedule, and length of classes.

Intervention. An intervention is defined as the action taken to improve a situation.

Modular scheduling. The modular schedule system is similar to a traditional block schedule, but differs in that it allows for each day of the week to have classes

(sometimes referred to as "mods") scheduled in a different order or for a different length of time.

Norm Referenced Tests (NRTs). Norm-referenced tests are tests that compare an individual's performance to the performance of his or her peers. The two NRTs that will be used in this study are the EXPLORE, tenth edition, test as a pretest and the PLAN as a posttest. Normal curve equivalent (NCE) scores from the reading, mathematics, and languag0e subtests of each test will be used as research measures.

Normal Curve Equivalent (NCE). A normal curve equivalent is a score received on a test based on the percentile rank and is a measurement of where a student falls on a normal curve with a mean of 50 and a standard deviation of 21.06. Since NCEs are equal interval scale conversions of percentile ranks, they are appropriate for use in research (Gravetter & Wallnau, 2004).

Office referral. An office referral is a document written by a classroom teacher that explains the misbehavior by a student for which that student was removed from class for disciplinary consequences. Examples of such behavior include disrespect, aggression, profanity, and physical violence. All office referrals are stored in the PowerSchool student information database.

On time graduate. An on time graduate is a student who successfully completes high school within a four-year time frame.

Out of school suspension. Out of school suspension is a consequence assigned to a student as a form of punishment that can last anywhere from one day to nineteen days during which time the student cannot attend school or school activities.

Permissive teaching style. Permissive teaching style refers to a teacher who has a low level of structure in the classroom and is lenient, or tolerant, of a behavior or action that others may disapprove or disagree with (Thijs & Verkuyten, 2009).

Personalized learning environment. A personalized learning environment is a unique program for each student in order to meet his or her needs, interests, and abilities and to provide an opportunity to learn in ways that suit their individual learning styles. The program utilizes student input and provides support for each student.

PLAN Test. The PLAN measures achievement in English, reading, mathematics, and science. The PLAN is a traditional standardized, norm referenced assessment series that provides comprehensive evaluation of student achievement and is used as a predictor of a student's ACT score.

PowerSchool. PowerSchool is a computer-based student information and data management system developed by Pearson Education and used by the research school district. It is used to collect and record a variety of student data including but not limited to student grades, test scores, student engagement measures, and discipline referral information.

School engagement. School engagement is the degree to which a student is participating in routine school activities such as attending class, doing homework, participating in class, and being meaningfully involved in day-to-day school environment.

School-year-long. School-year-long is a time frame for which an initiative, strategy, or approach is consistently utilized for the length of the entire school year.

Social skills. Social skills are interpersonal skills that students use to interact and communicate with each other and with staff members in a positive manner.

Strategy. A strategy is defined as a tool, plan, or method used for accomplishing a task.

Student characteristics. Student characteristics are individual features or qualities that are unique to each student. Family structure, reading level, motivation, maturity, socioeconomic background, ethnicity, and gender may be some features that are unique to a student. These qualities can help identify learning style, how the student processes information, obstacles, level of thinking, etc.

Tardy. Tardy is when a student arrives to class or school after the scheduled starting time. After a specified amount of time the tardy will convert to an absence.

Time management. Time management is the ability to organize and prioritize tasks that allow a person to be more productive and efficient in completing these tasks.

Time on task. Time on task is the period of time a student is actively engaged in a learning activity. This may be in class, at home, or in an alternative location.

Truancy. Truancy is when a student is absent without an excuse by the parent/guardian or if the student leaves school or a class without permission.

Significance of the Study

This study has the potential to contribute to research, practice, and policy. The study will be of significant interest to educators seeking to prevent high school students from leaving school early. This study will be of significant interest to Westside Community School District administrators, teachers, and parents as they develop and support programs that will ensure that all students work to successfully complete high

school. Westside High School, the research school, has utilized a modular schedule since 1965. One of the positive aspects of modular scheduling is that there are times during the school day when students are not scheduled for class, but are instead scheduled for periods of independent study time. These independent study periods may be spent getting help from a teacher, completing homework, finishing labs or class projects, retaking tests, or completing other personal tasks during the day. Students who choose to use this independent study time effectively are more likely to be successful in high school by achieving passing grades, earning credits, and graduating from high school.

As Westside High School continues to see increasing numbers of at-risk students, programs designed to ensure academic success are vitally important. During the 2006-07, school year it was determined that approximately 14.1% of freshmen were credit deficient after their first semester of high school. The number of sophomores that were determined to be credit deficient after the first semester of the 2006-07, school year was 13.6%. It was determined that there was a significant need to look at programs that could help incoming freshmen be more successful and on track for graduation. One of the programs designed to help identify incoming freshmen that may struggle and provide support for them was the creation of the Ninth-Grade Study Center.

No study has been conducted to date within the research school district to identify the impact of specific programs on students' academic achievement, behaviors, and engagement. This study may help determine the effectiveness of the Ninth-Grade Study Center and provide data to school administrators, counselors, and parents.

Contribution to research. There is a great deal of research in the area of students leaving high school early and the transition from eighth-grade to ninth-grade, but

little is focused on determining the effectiveness of intervention or support programs. This study could help to inform those that work with at-risk students as they enter high school of a successful intervention program.

Contribution to practice. The results of this study can add to the research on early identification and intervention of students at-risk of dropping out of high school. Findings from the study and review of the literature will inform building level decision makers of possible interventions, effectiveness of interventions, and strategies for dealing with at-risk students.

Contribution to policy. The results of this study will be presented to building level administrators, counselors, and department chairs to identify changes in policy regarding identifying at-risk students and assigning at-risk students to specialized programs.

Organization of the Study

The literature review relevant to this research study is presented in Chapter 2. This chapter reviews professional literature regarding identifying at-risk students, developing programs to meet the needs of at-risk students, identifying potential reasons for students dropping out of school, and structure of modular scheduling. Chapter 3 describes the research design, methodology, independent and dependent variables, and procedures that will be used to gather and analyze the data of the study.

Chapter Two

Review of Literature

A Review of Selected Literature and Research

The concern with students who drop out of high school has been around for decades. A book written in 1961 by James Conant entitled *Slums and Suburbs: A Commentary on Schools in Metropolitan Areas* identified the concern that students in inner city schools were completing high school at a lower rate then students living outside those areas (Conant, 1961). A special labor force report from 1974 related how students who drop out of school will have to take low paying, unskilled jobs, and face a rough future in employment, income, and living standards (Young, 1975). Current research continues to tell a story of struggle for the one-third of our nation's students who do not complete high school each year (Barton, 2005; Bridgeland, Dilulio, & Balfanz, 2009; Yazzie-Mintz, 2007).

Individual student characteristics. Much of the research regarding students who leave school before completing their high school studies has focused on the individual characteristics of the student and those risk factors that may predict whether a student will complete high school. According to Dalton, Glennie, and Ingels (2009) 48% of all dropouts came from families in the lowest quartile of the socioeconomic distribution and 77% came from families in the lowest half of the socioeconomic distribution. Other individual characteristics that increase the likelihood that a student will leave school early include attending the lowest poverty schools, having a parent or parents that did not finish high school, and being more then two years older then peers in the same grade level (Dalton, Glennie, & Ingels, 2009). Other social factors such as giving birth to a child

while in high school, having a family history of abuse or neglect, or being in foster care increased the drop out rate to almost 70% in some larger cities (Neild & Balfanz, 2006). Many students with these characteristics entering ninth-grade are deficient in the skills and knowledge needed to be successful in the high school environment (Duke & Jacobson, 2011).

Institutional characteristics. There are also school, or institutional, factors that may increase the potential for a student dropping out before graduating. A study by the Bill and Melinda Gates Foundation (2006) found that students who had dropped out of school identified being bored with school, missing too many days of school, spending time with peers who were not interested in school, having too much freedom during the school day, and failing numerous courses as the greatest school factors leading to their early school leaving (Azzam, 2007; Smith, 2006). Furthermore, 71% of students who left school early reported feeling disengaged in school by the time they were in the ninth-grade (Heppen & Therriault, 2008). In urban school settings the three most significant student predictors of success are good attendance, positive behavior, and no failing grades (Balfanz, 2011). The landmark work on the importance of winning students hearts and minds (*Breaking Ranks,* NASSP, 1996) asserts that schools must develop strategies to ensure that students and staff develop personal connections and trust as an integral link to academic progress and that there is an adequate system for both social and academic support (Lampert, 2005). There has been a recent push for high schools to develop transition programs for incoming ninth-grade students that may include some sort of Freshmen Academy or ninth-grade center. (Cushman, 2006; Lampert, 2005; Mizelle, 2005; Smith, Feldwisch, & Abell, 2006).

Eighth-Grade to Ninth-Grade Transition

Structure and size of high schools. One of the toughest times in an adolescent's life is the transition from middle school to high school. Compared to their middle school experience many incoming ninth-grade students find themselves in a larger school, with more distractions, less support, more competition, and increased academic pressures (Herlihy, 2007; Mizelle, 2005). High schools typically have more classes and teachers that bring varying rules, grading practices and expectations, more students, a larger campus, and less personalized instruction (Holcomb-McCoy, 2007). The students that have a difficult time adjusting to the increased social and academic demands often find themselves falling behind academically and becoming disengaged early in their high school careers (Cooper & Liou, 2007). The new environment and structural changes are not universally negative or difficult, but it is hard for many students, especially those low achieving students with a history of school difficulties in elementary and middle school to make the correct adjustments in high school to be successful (Smith, 2006). The middle school years can be a source of stress for many students because of the emotional, social, and physical changes a young person experiences and the anticipation of moving to high school can increase anxiety and stress (Smith, Feldwhich, & Abell, 2006).

Most students do not drop out of school prior to ninth-grade, making this a critical year to keep students in school and providing supports to help them succeed (Neild & Balfanz, 2006). Because of the importance of transitioning from middle school to high school, many of the interventions are targeted to ninth-grade students (Neild, Stoner-Eby, & Furstenberg, 2008). Addressing the transition from middle school to high school and providing continuing support throughout the ninth-grade year and beyond can improve

student confidence and increase academic success (Cushman, 2006). A difficult start in high school can lead to lower achievement, increased behavior problems, decreased engagement, and an increased chance that the student drops out (Holcomb-McCoy, 2007; Smith, Feldwhich, & Abell 2006). Ninth-grade students identified time management, not getting in trouble, spending time on homework, and interacting appropriately with peers as the skills needed to be successful (Azzam, 2007; Cushman, 2006). Having appropriate social skills and behavior was more important to success then academic ability (Zeedyk et al., 2003). Morgan and Hertzog (2001) identified characteristics of transition programs that dramatically lowered drop out rates including: (a) challenging curriculum, (b) quality buildings and conducive layouts, (c) high regard for safety and discipline, (d) committed staff members, and (e) accurate information and data. Students engaged in school who form positive social relationships, and identify post-secondary plans early in high school, preferably during the freshmen year, have the greatest chance of being successful (Cooper & Liou, 2007).

Personalized learning environments. Students entering high school have to adapt to the increase in rules and regulations, may see more teachers each day, be subject to more homework and tougher grading standards, have more opportunity to *get lost in the shuffle*, and at the same time will probably receive less attention from home and have less connection with their teachers (Chmelynski, 2004; Duke & Jacobson, 2011). Many high schools are very bureaucratic, compartmentalized, and de-personalized. Schools that operate this way alienate students and represent an anonymous setting where students who have struggled to find their way in middle school may become completely lost or forgotten in high school (Holcomb-McCoy, 2007). An essential component of any

intervention program is to personalize the learning environment for students. Focusing on the unique academic, personal, and social problems facing a student and creating specific interventions for that individual student is critical in helping that student succeed (Christenson & Thurlow, 2004). A small group of students and teachers working together create more intimate relationships between the student and teacher, allow the teachers to modify and reinforce curriculum for individual students, increases the communication between school and home and creates a safer psychological environment for struggling students (Balfanz, 2011). Without proper support and individualized attention at-risk students are likely to become overwhelmed, lose motivation, and show a decreased interest in school (Thornton & Sanchez, 2010).

Ninth-grade academy. Changes in the way high schools structure the ninth-grade can have positive results. One study focusing on Philadelphia Public Schools noted that one of the single best predictors for students dropping out of school was the students' lack of engagement with teachers (Neild, Stoner-Eby, & Furstenberg, 2008). The Talent Development High School utilizes a Ninth-Grade Academy, located in a separate part of the building, to organize students into teams focusing around the core subject areas and having the teachers meet to discuss academic progress of their students (Balfanz, Legters, & Jordan, 2004). The classroom environment is a vital piece of determining a student's sense of belonging and a positive, engaging, classroom can increase a student's self esteem, help them like school more, and increase overall satisfaction (Furlong et al., 2003). Schools need to focus on increasing student engagement primarily in the areas of self-belonging, motivation, and the value they place on learning (Christenson & Thurlow, 2004).

Student Engagement

Researchers have concluded that dropping out is the final result of becoming increasingly disengaged in school (Barton, 2009; Betts et al., 2010; Neild, Stoner-Eby, & Furstenberg, 2008; Willms, Friesen, & Milton, 2009). Students living in poverty, students with disabilities, and minority students are at greater risk of becoming disengaged from school (Willms, Friesen & Milton, 2009). Three types of engagement are cited as imperative if students are going to stay in high school. These are social/behavioral engagement, academic/cognitive engagement, and affective engagement (Hallinan, 2008; Jimerson, 2003; Shernoff & Schmidt, 2008). Unfortunately, according to Willms, Friesen, and Milton (2009) it is these very levels of student engagement that decrease as students enter high school away from earlier more nurturing elementary and middle school experiences.

Behavioral engagement. Behavioral engagement refers to the relationships with peers, teachers, involvement in school activities, organizations, and following rules and procedures (Archambault, Janosz, Morizot, & Pagini, 2009; Walker & Greene, 2009). Students who build relationships with peers are more likely to be involved in school athletics or clubs, establish friendships that can provide support for the student, and promote cooperative behaviors (Hallinan, 2008). When personal relationships and the feeling of being connected are absent students are more likely to have increased truancy, higher rates of absenteeism, more behavior problems, and a greater likelihood of dropping out (Walker & Greene, 2009).

Cognitive engagement. Cognitively engaged students look for activities that enhance learning, work towards earning credit, and put forth effort to achieve academic

success (Akey, 2006). Many times the students who are identified as academically disengaged mirror the students who fall into the achievement gap (Fisher, Fry, & Lapp, 2011; Yazzi-Mintz, 2009). If students start struggling academically they typically become more disenchanted which leads to behavior issues, low attendance, and finally dropping out (Archambault, Janosz, Fallu, & Pagini, 2008; Fisher, Fry, & Lapp, 2011). Engaged students conversely demonstrate more effort, have increased attention in class, more positive learning experiences, fewer discipline issues, better attendance, and higher academic achievement (Fredricks, Blumenfeld, & Paris, 2004; Hallinan, 2008).

Affective engagement. Affective engagement is the student's feelings about school, teachers, and classes (Jimerson 2003). Students who have positive feelings about their school generally have higher grades, show an increase in class participation, have higher educational expectations, and have decreased behavioral problems (Hallinan, 2008). Positive interactions with people in the school are one way to increase affective engagement. Teachers can be the cornerstones to increasing affective engagement by the way they treat, challenge, and support individual students (Hallinan, 2008; Jang, Reeve, & Deci, 2010).

Adult Advocate/Advisor

Students who have parents that are interested and involved in school have better attendance, better grades, fewer behavioral problems, and less discipline issues (Chen & Gregory, 2009). Students who don't have a positive home support system may need to rely on teachers, coaches, or other adults in the school as they transition in to high school. Through positive, caring, and encouraging relationships with teachers and other staff members, students feel a sense of belonging (Hallinan, 2008; Klem & Connell, 2004). A

positive sense of belonging helps increase motivation, participation, effort, and achievement (Jennings, 2003; Newman et al., 2007). If a student fails to make these types of interpersonal connections with teachers they are more likely to disengage from school (Grossman & Cooney, 2009; Walker & Greene, 2009).

The problem arises because high schools are typically much larger then middle schools, with less individualized attention from teachers, and a vast array of different rules for each class and, sometimes, stricter discipline (Holcomb-McCoy, 2007). Within individual classrooms there can be more variation in rules, climate, and expectations then between different schools (Willms, Friesen, & Milton, 2009).

Student/teacher relationships. Studies have shown that students who have caring and close relationships with teachers tend to do better academically, put forth more effort, and generally have a more positive attitude towards school (Akey, 2006; Green, Rhodes, Hirsch, Suarez-Orozco, & Camic, 2008; Harris & Princiotta, 2009). Getting to know the student personally first, building trust and rapport, allows a teacher to then shift their efforts to the academic needs of the student (Christenson & Thurlow, 2004). A study by Thijs and Verkuyten (2009) determined that a teacher with an authoritative style, which has a high level of structure and a high level of student involvement, generated more student effort and engagement then teachers that were authoritarian (high structure but low involvement) or permissive (low structure but high involvement). Positive experiences with adults at school have the biggest impact on vulnerable students and sometimes is the main factor allowing these students to push through the hard times and persevere (Green et al., 2008). Students want to feel connected to an adult or peers, want to form positive relationships in school, and want to feel as though they belong (Yazzie-

Mintz, 2009). Students who perceived their teacher, or teachers, were supportive are more interested in class, have less discipline problems, and worked harder in class (Furlong, Whipple, St. Jean, Simnetal, Soliz, & Puntuna, 2003; Walker & Greene, 2010).

Conflict in relationships with teachers is a strong predictor of class absenteeism and negative perceptions of school (Goldstein, 2003). Academic competence may be increased with positive adult relationships by providing opportunities to develop good social skills with peers and adults and fostering more positive attitudes and beliefs (Jennings, 2003). People want to feel a connection with others. Students reported that they wanted teachers to interact with them, teach them the material, and discuss information with them--not just hand out worksheets and assign homework (Rulloda, 2009). Adult advocates provide students with opportunities for positive social interactions, give empathetic support to help build student's self-esteem, can be a role model for the student to emulate, and promote positive experiences for the student that may counter the negative feelings of past school failure (DeSocio, VanCura, Nelson, Hewitt, Kitzman, & Cole, 2007). Students who felt support from a teacher had more positive attitudes about school in general and how they fit into the school environment were more likely to complete homework, attend classes, and had fewer discipline referrals (Jang, Reeve, & Deci, 2010; Kenny, Blustein, Chaves, Grossman, & Gallagher, 2003).

Issues for At-Risk Students

Course failure. Students who fail to earn sufficient credit in ninth-grade decrease their chance of earning a diploma and increase their chance of dropping out (Mac Iver, 2011; Neild, 2009). Each course a student fails in their freshman year can delay the graduation date, or even worse, increase the chance of dropping out significantly (Neild,

Stoner-Eby, & Furstenburg, 2008). When a student fails to earn credit the path to graduation shifts, becomes more difficult, and can eventually cause the student to lose hope and drop out (Grossman & Cooney, 2009). Many students, especially those most at-risk, would benefit from a smaller, less complex, and more personal school setting (Somers, Owens, & Piliawsky, 2009). Failing courses during the freshman year often restricts the course options available the next year, limits opportunities, and may dictate which academic path a student can take (Cooper & Liou, 2007). Students who fail courses during their first year of high school often begin questioning their abilities, lose hope of graduating, lose interest in school, and become much more likely to drop out (Fulk, 2003; Mac Iver, 2011).

Homework and time on task. Students understand they need to manage their time wisely and study, but many do not do this effectively and struggle asking for help (Mizelle, 2005). There are some people that believe homework is necessary for learning (Marzano & Pickering, 2007) and others that believe homework does not correlate to learning and should be used as practice only (O'Conner, 2010) or not at all (Kohn, 2007). Cooper (2007) compared 20 studies on homework and the relationship to learning and found that homework did improve student achievement at the high school level in almost three out four studies.

There is also some indication that the type of homework is important. The more individualized the homework, meeting the specific needs of the student, the more learning occurred (Bryan & Burstein; 2004; Minotti, 2005). Stimulating the interest of the student and making personal connections can trigger positive cognitive activity (Ainley, 2006). Homework may not be the sole answer for increasing student achievement, but if it is

personalized, meaningful, and the student is allowed to complete it in a favorable environment it can increase student achievement (Schuster, 2009).

Expanded learning opportunities. Providing extra help during the school day for both classwork and homework can decrease the chance of students falling behind and becoming discouraged (Cushman, 2006). Some students perceive they have less help and support in high school then they received from teachers during middle school that might lead to some discontent and feelings that high school is more of a struggle (Kennelly & Monrad, 2007). Struggling students need more opportunities to learn and more assistance to be successful (Rulloda, 2009). Expanded learning opportunities such as after school programs, summer school, extended school year, and time during the school day can all help increase the amount of learning a student is exposed to and increase student achievement (Harris & Princiotta, 2009). Extra help is most beneficial when students can access the help immediately from their regular classroom teacher (Bottoms & Timberlake, 2007). Organization is a habit, or component, of success that many students, especially those in ninth-grade, lack (Bottoms & Timberlake, 2007). Students who are organized are better equipped to meet deadlines, meet expectations, and pass courses (Bottoms & Timberlake, 2007). More support mechanisms, such as more one-on-one time with teachers, more time completing homework at school, and personal connections are beneficial to struggling students (Somers, Owens, & Piliawsky, 2009). Students who perceive they have difficulties with homework, or lack the skills needed to be successful academically, need increased support and individual attention (Fulk, 2003). Identifying potential dropouts early and providing increased supports and learning opportunities can increase the amount of on time graduates (Harris & Princiotta 2009).

Truancy/attendance. Most high school dropouts exhibited a pattern of excessive absenteeism in the year(s) prior to dropping out (Mac Iver, 2011). Missing excessive amounts of school causes students to miss out on many learning opportunities, fall behind in their coursework, and causes gaps in their learning (Thornton & Sanchez, 2010). High school students typically have much more freedom and responsibility then they had in middle school and large high schools provide numerous opportunities for a student to skip classes (Neild et al., 2008). High schools traditionally have given students more freedom and responsibility then middle schools. For some students this provides an opportunity for skipping classes that decreases their engagement and increases the likelihood of academic struggles (Kerr, 2002). Many times the consequences for skipping a class result in more time out of class through the use of suspensions, in-school suspension, or removal from the class until the work is made up which actually exacerbates the problem and increases the chance the student falls further behind and becomes more alienated from school (Yazzie-Mintz, 2009). School adults need to structure the environment that engages students in healthy social support to provide these students an appropriate means of coping with school stresses. Students who do not have this type of positive support may turn to increased absenteeism as a means of coping with the stress (Steward, Steward, Blair, Jo, & Hill, 2008). Some characteristics of school that decrease truancy include providing for a student's individual needs, providing supportive relationships, use of incentives or recognition for good attendance, dealing with students absences quickly, limited use of punitive measures to address the truancy, and utilizing the public agencies and programs available as resources for families to help address the truancy (DeSocio et al., 2007).

Discipline/behavior. Students with both academic and behavioral problems are more likely to drop out than students that have problems in only one of these areas (Mac Iver, 2011; McIntosh, Flannery, Sugai, Braun, & Cochrane, 2008). One of the reasons increased problem behaviors have a negative influence is because many times the consequences for behaviors have a cumulative effect which translates into suspensions and expulsions from school, therefore, causing these students to miss large amounts of school days (McIntosh et al., 2008). Out-of-school suspensions are one of the most widely used consequences for negative school behavior and typically decreases academic achievement and school engagement and may cause students to feel like they have been forced out of school (Lee, Cornell, Gregory, & Fan, 2011). Students with multiple suspensions are more likely to drop out and schools that have a high frequency of using suspensions or expulsions also have a higher drop out rate (Lee et al., 2011).

Resilient students. Resiliency is the ability of an individual to cope with stress, manage difficult situations, and be successful under pressure (Thornton & Sanchez, 2010). Resilient students successfully manage high school in spite of their family history, social issues, peer relationships, and other personal challenges (Thornton & Sanchez, 2010). We need to look at the way we identify *successful graduates* and change our perceptions that students must graduate in four years, or from a traditional program. Students may be labeled as successful if they graduate in five years or complete school through other means then through a traditional four-year high school program (Christenson & Thurlow, 2004).

Both individual and school factors are important but school level influences deserve attention because they offer opportunities for large-scale prevention efforts.

CHAPTER THREE

Methodology

Purpose of the Study

The purpose of this study is to determine the impact of participation in a required school year-long, academic support study center program, on the achievement, behavior, and school engagement outcomes of ninth-grade boys at-risk and eligible or not for free and reduced price lunch program participation compared to the achievement, behavior, and school engagement outcomes of ninth-grade girls at-risk and eligible or not for free and reduced price lunch program participation.

Participants

Number of participants. Total study participants ($N = 39$) will consist of four naturally formed arms. All participants were identified at the end of their eighth-grade year as being at-risk for early school failure or dropping out of high school. The first arm is a naturally formed group of ninth-grade boys ($n = 13$) determined to be at-risk who were not eligible for participation in the free or reduced price lunch program. The second arm was a naturally formed group of ninth-grade boys ($n = 9$) determined to be at-risk who were eligible for participation in the free or reduced price lunch program. The third arm was a naturally formed group of ninth-grade girls ($n = 7$) determined to be at-risk who were not eligible for participation in the free or reduced price lunch program. The fourth arm was a naturally formed group of ninth-grade girls ($n = 10$) determined to be at-risk who were eligible for participation in the free or reduced price lunch program.

Gender of participants. The gender of the naturally formed at-risk subject groups was males $n = 22$ (56.14%) and females $n = 17$ (43.59%). Ninth-grade boys

determined to be at-risk and not eligible for participation in the free or reduced price lunch program *n* = 13 (33.33%) and ninth-grade boys determined to be at-risk and eligible for participation in the free or reduced price lunch program *n* = 9 (23.08%). Ninth-grade girls determined to be at-risk and not eligible for participation in the free or reduced price lunch program *n* = 7 (17.95%) and ninth-grade girls determined to be at-risk and eligible for participation in the free or reduced price lunch program *n* = 10 (25.64%). Overall, ninth-grade enrollment patterns are 47.08% female and 52.92% male.

Age range of the participants. The age range of the participants was from 13 to 15 years. All participants previously completed the eighth grade. The age range of the study participants is congruent with the research school age range for ninth-grade students.

Racial and ethnic origins of participants. The study participants were 74.36% White not Hispanic, 17.95% Black not Hispanic, 5.13% Hispanic, and 2.56% American Indian according to the research school database, Power School. Overall, the racial and ethnic origin of the research school's ninth-grade class was 84.67% White not Hispanic, 6.70% Black not Hispanic, 3.24% Hispanic, and 1.51% American Indian. Study participant percentages were lower for White not Hispanic students, higher for Black not Hispanic students, higher for Hispanic students, and higher for American Indian students.

Inclusion criteria of participants. All ninth-grade students currently attending Westside High School, who also previously attended the Westside Middle School, and were identified by their middle school teacher, counselor, administrator at-risk identification team as being at-risk for school failure or early school leaving were eligible to participate in the study.

Method of participant identification. The students participating in the study (*N* = 39) were identified through meetings with Westside Middle School counselors and Westside High School administrators as being at-risk for school failure or dropping out. The students were then placed into four arms based on gender and participation, or not, in the free or reduced lunch program for required participation in the academic support study center program.

Description of Procedures

Research design. The exploratory pretest-posttest four-arm comparative efficacy study research design is displayed in the following notation:

Group 1	X_1	O_1	Y_1	O_2
Group 2	X_1	O_1	Y_2	O_2
Group 3	X_1	O_1	Y_3	O_2
Group 4	X_1	O_1	Y_4	O_2

Group 1 = study participants #1. Naturally formed group of ninth-grade boys (*n* = 13) determined to be at-risk who were not eligible for participation in the free or reduced price lunch program.

Group 2 = study participants #2. Naturally formed group of ninth-grade boys (*n* = 9) determined to be at-risk who were eligible for participation in the free or reduced price lunch program.

Group 3 = study participants #3. Naturally formed group of ninth-grade girls (*n* = 7) determined to be at-risk who were not eligible for participation in the free or reduced price lunch program.

Group 4 = study participants #4. Naturally formed group of ninth-grade girls (*n* = 10) determined to be at-risk who were eligible for participation in the free or reduced price lunch program.

X_1 = study constant. All students were identified by their eighth-grade counselors, for academic and behavioral support and were required to participate in a school-year-long, academic support study center program. All study participants also attended the research school throughout the ninth-grade school year and completed all required assessments.

Y_1 = study independent variable, at-risk students, condition #1. Ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program and participate in a school-year-long, academic support study center program.

Y_2 = study independent variable, at-risk students, condition #2. Ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program and participate in a school-year-long, academic support study center program.

Y_3 = study independent variable, at-risk students, condition #3. Ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program and participate in a school-year-long, academic support study center program.

Y_4 = study independent variable, at-risk students, condition #4. Ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced

price lunch program and participate in a school-year-long, academic support study center program.

O_1 = study pretest dependent measures. (1) Classroom achievement as measured by the end of eighth-grade school year cumulative grade point. (2) Cumulative credits earned as measured by end of eighth-grade total courses passed. (3) Norm referenced achievement as measured by end of eighth-grade EXPLORE Test subtests for (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) scores. (4) Behavior as measured by cumulative end of eighth-grade (a) office referrals and (b) days absent from school. (5). Engagement as measured by end of the eighth-grade student participation in school sponsored extra curricular activities, athletics, and clubs.

O_2 = study posttest dependent measures. (1) Classroom achievement as measured by the end of ninth-grade school year cumulative grade point average. (2) Cumulative credits earned as measured by end of ninth-grade total courses passed. (3) Norm referenced achievement as measured by end of ninth-grade PLAN Test subtests for (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) scores. (4) Behavior as measured by cumulative end of ninth-grade (a) office referrals and (b) days absent from school. (5) Engagement as measured by end of the ninth-grade student participation in school sponsored extra curricular activities, athletics, and clubs.

Independent Variable Descriptions

The independent variables for this study were ninth-grade boys and girls determined to be at-risk who were eligible or not for participation in the free or reduced price lunch program. All students will participate in a school-year-long, academic support study center program. These students will comprise the following four research arms: (1) Ninth-grade boys who are not eligible for participation in the free or reduced lunch program, (2) Ninth-grade boys who are eligible for participation in the free or reduced lunch program, (3) Ninth-grade girls who are not eligible for participation in the free or reduced lunch program, (4) Ninth-grade girls who are eligible for participation in the free or reduced lunch program. All groups of students will be selected from the same student population and will be in attendance at the same research high school.

Dependent Measures

The following research questions focused on the dependent variables for academic achievement, behavior, and school engagement. Student achievement was determined by (1) end of the year cumulative grade point average, (2) end of the year total credits earned and (3) end of the year norm-referenced EXPLORE Test and end of the year PLAN Test for (*a)* English, (*b*) math, (*c*) reading, (*d*) science, and (*e)* composite total subtest normal curve equivalent (NCE) scores.

Behavior data were also collected retrospectively, from the students' end of eighth-grade and end of ninth-grade data. The dependent measures were (a) total office referrals and (b) total days absent for all students. All of these data were collected from the district's PowerSchool student information system where the information was archived at the central office.

School engagement data were also collected retrospectively, from the students' end of eighth-grade and end of ninth-grade data. Participation in extracurricular activities served as a proxy measure for school engagement. Students who participated in any type of school-sponsored extracurricular activity, athletics, or clubs during the eighth-grade and ninth-grade school year were identified using the district's PowerSchool student information system.

Description of Study Constant

Modular scheduling. The schedule at Westside High School utilizes a modular format where students may be in a large group lecture type setting, a small group classroom, or a lab based type of setting. Classes may be 40 minutes, 60 minutes, or 80 minutes in length and may meet every day or a combination of days that provides approximately 200 minutes of instructional time per class, per week. For example, a biology class in a traditional schedule would meet each day for 40 minutes. In a block schedule the class would meet for 80 minute blocks of time and meet for half a year in an intensive block, or alternate every other day in an alternating block, but would in essence meet for 200 total minutes per week. Both types of schedules would typically have the same students in each period. A biology class in a modular schedule, on the other hand, may meet for one 40-minute large group with 200 students, one 80-minute lab with 25 students and two 40-minute small group sections with 25 students. Therefore, one day a week the student's schedule would not meet for biology and the student would not have a class that period. The times when students are not assigned to a class are called an independent study mod or period. Independent study periods occur each school day at various times and are scheduled times when the student is not in class. The independent

study times are to be used for eating lunch, meeting with teachers, making up class assignments, retaking exams, etc. Often students who do not use the independent study periods for schoolwork are the students who struggle academically.

Attendance. One strong characteristic of many at-risk students is poor school attendance. When students miss class they miss learning opportunities and may fall behind. The Nebraska Legislature noticed the impact of missing school in 2010 and enacted Law 79-209 that requires schools to report any student who misses more then 20 days of school in one school year to the county attorney. Students must be in school and attending classes in order to be successful. One of the negative aspects of modular scheduling is that there is a wide variety of schedules, crossover of students in different sections of a course, large numbers of students (up to 250) in some large group classes, and classes that meet different periods each day. This can make attendance difficult to manage accurately and may provide more opportunities for a student to skip class than in traditional schedules since there are times during the day they are not in class. Once a student is out of class and socializing with friends, or grabbing a bite to eat, going back to the next class may not a high priority. One strategy Westside High School uses to help track students who miss classes, or are not performing well academically, is to assign the independent study periods of a student's schedule. When the student has an assigned period they no longer have the privilege of determining where they go, or how they use the time; they are assigned to a particular teacher or an instructional material center. The teacher or aide takes attendance, the attendance is recorded, and the student's ability to move throughout the halls is restricted.

Assigning independent study time. Poor attendance or skipping classes is not the only reasons students may be assigned to an area during their independent study periods. Students who struggle academically often do not utilize their independent study periods for productive purposes. Instead of meeting with teachers, doing homework, or making up missed class sessions, they decide to spend the period socializing with friends, getting something to eat or wasting the time some other way. Identifying these students early and assigning their independent study periods to teachers or study areas may help keep them from falling behind academically.

EXPLORE, PLAN and ACT assessments. One of the goals at Westside High School is to prepare all students to be productive citizens and reach their full individual potential. One of the ways students may do this is by attending college. One of the prerequisites for most Midwest universities is a minimum score on the ACT. In order to prepare students for the ACT we encourage students to take courses that are identified as core courses by the Act. Courses include English, math (Algebra 1 or higher), laboratory science, social science, and foreign language. Students also take the EXPLORE Test at the end of their eighth-grade year and the PLAN Test at the beginning of the tenth-grade year. The EXPLORE test helps determine the readiness of eighth-grade students for high school coursework, the PLAN test predicts the readiness for higher grade levels and prepares the student for the ACT test. Using the EXPLORE and PLAN tests to identify weak areas for a student may help focus attention on those areas and, in turn, raise the ACT scores.

Credits earned. Students who fall behind academically or are credit deficient in ninth-grade have a greater chance of dropping out or not graduating on time. At

Westside High School students need 210 credits to graduate. At the completion of the ninth-grade it is expected that students would have earned between 56-65 credits. Students who earn less then 50 credits during their freshman year are considered to be credit deficient. The farther away they are from this benchmark, the more likely they will struggle to graduate on time. Approximately 13.3% of the freshmen were considered credit deficient after the 2006 school year. Students who are credit deficient would need to take summer school, enroll in a higher number of courses then usual the following year or enroll in online courses to help recover the missed credits. However, this is after the fact, and early intervention would be best.

Required participation in a school-year-long, academic support, study center program. Identifying students who struggle in the areas mentioned above and providing additional support and early intervention may increase the achievement of these students and help them graduate on time. During the last month of school, the Westside Middle School counselors and the Westside High School Student Assistance Team meet to discuss the incoming ninth-grade students. The students who are identified as at-risk for attendance, academic performance and/or behavior are identified. Students who are not verified for special education and on an Individualized Education Plan (IEP) are eligible for participation in the study center program. The forty students who are most at need and who the counselors feel would benefit from the program are placed into the study center program. The required academic support program requires students to attend the study center during their independent study periods. Students participating in this study must report to the study center and work on school assignments, study course content, complete assessments, and other general schoolwork. The study center is staffed with a

full-time certified special education teacher and one educational assistant. Each period a certified teacher from the various curriculum areas is present to help tutor students. The director of the study center takes daily attendance, calls parents when necessary, checks with participants' teachers for updates on the academic progress of the students, and oversees the day to day operation of the study center.

Research Questions and Data Analysis

The following research questions will be used to analyze grade point average scores of male and female students eligible for free or reduced lunch program and not eligible for free or reduced lunch program following completion of a school-year-long, academic support study center program.

Overarching Pretest-Posttest Grade Point Average Research Question #1. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade pretest compared to ending ninth-grade cumulative grade point average scores?

Sub-Question 1a. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve

pretest ending eighth-grade compared to posttest ending ninth-grade cumulative grade point average scores?

Sub-Question 1b. Do ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve pretest ending eighth-grade compared to posttest ending ninth-grade cumulative grade point average scores?

Sub-Question 1c. Do ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve pretest ending eighth-grade compared to posttest ending ninth-grade cumulative grade point average scores?

Sub-Question 1d. Do ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve pretest ending eighth-grade compared to posttest ending ninth-grade cumulative grade point average scores?

Analysis. Research Sub-questions #1a, 1b, 1c, and 1d will be analyzed using dependent *t* tests to examine the significance of the difference between pretest ending eighth-grade compared to posttest ending ninth-grade grade point average scores. Because multiple statistical tests will be conducted, a one-tailed .01 alpha level will be employed to help control for Type 1 error. Means and standard deviations will be displayed on tables.

Overarching Posttest-Posttest Grade Point Average Research Question #2. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program have congruent or different ending ninth-grade posttest compared to ending ninth-grade cumulative grade point average scores?

Sub-Question 2a. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade posttest compared to ending ninth-grade posttest cumulative grade point average scores?

Analysis. Research Sub-Questions #2a will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students posttest-posttest grade point average scores. An *F* ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis.

Independent *t* tests will be used for contrast analysis if a significant main effect is observed. Means and standard deviations will be displayed in tables.

The following research questions will be used to analyze total credits earned in male and female students eligible for free or reduced lunch program and not eligible for free or reduced lunch program following required participation in a school-year-long, academic support study center program.

Overarching Posttest-Posttest Total Credits Earned Research Question #3. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program have congruent or different ending ninth-grade posttest compared to ending ninth-grade posttest total credits earned?

Sub-Question 3a. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school

year-long, academic support study center program ending ninth-grade posttest compared to ending ninth-grade posttest total credits earned?

Analysis. Research Sub-Questions #3a will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students posttest-posttest grade point average scores. An *F* ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent *t* tests will be used for contrast analysis if a significant main effect is observed. Means and standard deviations will be displayed in tables.

The following research questions will be used to analyze student achievement as measured by norm-referenced achievement Normal Curve Equivalent (NCE) scores for English, math, reading, science, and composite end of eighth-grade EXPLORE test and end of ninth-grade PLAN test scores in male and female students eligible for free or reduced lunch program and not eligible for free or reduced lunch program following required participation in a school-year-long, academic support study center program.

Overarching Pretest-Posttest Norm Referenced Test Scores Research Question #4. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade EXPLORE pretest compared to ending ninth-grade

PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Sub-Question 4a. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Sub-Question 4b. Do ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Sub-Question 4c. Do ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Sub-Question 4d. Do ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve

their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Analysis. Research Sub-questions #4a, 4b, 4c, and 4d will be analyzed using dependent *t* tests to examine the significance of the difference between pretest ending eighth-grade EXPLORE test compared to posttest ending ninth-grade grade PLAN test (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores. Because multiple statistical tests will be conducted, a one-tailed .01 alpha level will be employed to help control for Type 1 error. Means and standard deviations will be displayed on tables.

Overarching Posttest-Posttest Norm Referenced Test Scores Research Question #5. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program have congruent or different ending ninth-grade PLAN posttest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Sub-Question 5a. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or

reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade PLAN posttest compared to ending ninth-grade PLAN posttest their ending eighth-grade EXPLORE pretest compared to ending ninth-grade PLAN posttest (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores?

Analysis. Research Sub-Questions #5a will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students posttest-posttest PLAN test (a) English, (b) math, (c) reading, (d) science, and (e) composite Normal Curve Equivalent (NCE) test scores. An *F* ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent *t* tests will be used for contrast analysis if a significant main effect is observed. Means and standard deviations will be displayed in tables.

The following research questions were used to analyze behavior as measured by cumulative end of the year (a) office referrals and (b) days absent from school in male and female students eligible for free or reduced lunch program and not eligible for free or reduced lunch program following required participation in a school-year-long, academic support study center program.

Overarching Pretest-Posttest Total Behavior Research Question #6. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the

free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade pretest compared to ending ninth-grade posttest (a) office referrals and (b) total days absent from school?

Sub-Question 6a. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade pretest compared to ending ninth-grade posttest total office referrals?

Sub-Question 6b. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch

program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade pretest compared to ending ninth-grade posttest total days absent from school?

Analysis. Research Sub-questions #6a and 6b will be analyzed using dependent *t* tests to examine the significance of the difference between pretest ending eighth-grade compared to posttest ending ninth-grade grade (a) office referrals and (b) total days absent from school. Because multiple statistical tests will be conducted, a one-tailed .01 alpha level will be employed to help control for Type 1 error. Means and standard deviations will be displayed on tables.

Overarching Posttest-Posttest Total Behavior Research Question #7. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program have congruent or different ending ninth-grade posttest compared to ending ninth-grade posttest (a) office referrals and (b) total days absent from school?

Sub-Question 7a. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined

to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade posttest compared to ending ninth-grade posttest total office referrals?

Sub-Question 7b. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade posttest compared to ending ninth-grade posttest total days absent from school?

Analysis. Research Sub-Questions #7a and 7b will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students posttest-posttest (a) office referrals and (b) total days absent from school. An *F* ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent *t* tests will be used for contrast analysis if a significant main effect is observed. Means and standard deviations will be displayed in tables.

The following research questions were used to analyze school engagement as measured by total participation in school sponsored extra curricular activities, athletics,

and clubs in male and female students eligible for free or reduced lunch program and not eligible for free or reduced lunch program following required participation in a school-year-long, academic support study center program.

Overarching Pretest-Posttest School Engagement Research Question #8. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program lose, maintain, or improve their ending eighth-grade pretest compared to ending ninth-grade posttest as measured by total participation in school sponsored extra curricular activities, athletics, and clubs?

Sub-Question 8a. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Sub-Question 8b. Do ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Sub-Question 8c. Do ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Sub-Question 8d. Do ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program statistically improve their ending eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Analysis. Research Sub-questions #8a, 8b, 8c, and 8d will be analyzed using dependent *t* tests to examine the significance of the difference between pretest ending eighth-grade compared to posttest ending ninth-grade total participation in school sponsored extra curricular activities, athletics, and clubs. Because multiple statistical tests will be conducted, a one-tailed .01 alpha level will be employed to help control for Type 1 error. Means and standard deviations will be displayed on tables.

Overarching Posttest-Posttest School Engagement Research Question #9. Do ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school

year-long, academic support study center program have congruent or different ending ninth-grade posttest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Sub-Question 9a. Will there be a significant difference between ninth-grade boys determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, ninth-grade boys determined to be at-risk who were eligible for participation in the free or reduced price lunch program, ninth-grade girls determined to be at-risk who were not eligible for participation in the free or reduced price lunch program, and ninth-grade girls determined to be at-risk who were eligible for participation in the free or reduced price lunch program who completed a required school year-long, academic support study center program ending ninth-grade posttest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs?

Analysis. Research Sub-Questions #9a will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students posttest-posttest total participation in school sponsored extra curricular activities, athletics, and clubs. An *F* ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent *t* tests will be used for contrast analysis if a significant main effect is observed. Means and standard deviations will be displayed in tables.

Data Collection Procedures

All study achievement data will be retrospectively, archival, and routinely collected school information. Permission from the appropriate school research personnel

will be obtained. A random sample of students in each independent arm will be obtained to include achievement, behavior, and engagement data. Non-coded numbers will be used to display individual and de-identified achievement and behavioral data as well as engagement data. Aggregated group data, descriptive statistics, and parametric statistical analyses will be utilized and reported as means and standard deviations on tables.

Performance site. The research will be conducted in the public school setting under normal educational practices. Since Westside High School is the only attendance center in the research district for ninth-grade students, it will be the only building included in the study. Westside High School is a comprehensive ninth-grade through twelfth-grade building of approximately 1900 students, 165 certificated staff members, and 45 educational assistants.

The study procedures will not interfere in any way with the standard educational practices of the public school and will not involve coercion or discomfort of any kind. All data will be analyzed in the office of the primary investigator at the Westside High School, located at 8701 Pacific Street, Omaha, Nebraska, 68114 or in the office of the dissertation chair at the University of Nebraska at Omaha. Data will be stored electronically on spreadsheets and computer drives for descriptive and inferential statistical analysis. Data and computer drives will be kept in the Primary Investigator's locked file cabinet. No individual student identifiers will be attached to the data. See Appendix for school district letter of approval.

Institutional Review Board (IRB) for the Protection of Human Subjects Approval Category. The exemption categories for this study are provided under 45CFR46.101(b) categories 1 and 4. The research will be conducted using routinely

collected archival data. A letter of support from the school district will be provided to the IRB for their review.

CHAPTER FOUR

Results

Purpose of the Study

The purpose of this study was to determine the impact of participation in a required school year-long, academic support study center program, on the achievement, behavior, and school engagement outcomes of ninth-grade boys at-risk and eligible or not for free and reduced price lunch program participation compared to the achievement, behavior, and school engagement outcomes of ninth-grade girls at-risk and eligible or not for free and reduced price lunch program participation.

Implementation of the Independent Variables

The independent variables for this study were ninth-grade boys and girls determined to be at-risk who were eligible or not for participation in the free or reduced price lunch program. All students participated in a school-year-long, academic support study center program. These students comprised the following four research arms: (1) Ninth-grade boys who are not eligible for participation in the free or reduced lunch program, (2) Ninth-grade boys who are eligible for participation in the free or reduced lunch program, (3) Ninth-grade girls who are not eligible for participation in the free or reduced lunch program, (4) Ninth-grade girls who are eligible for participation in the free or reduced lunch program. All groups of students were selected from the same student population and were in attendance at the same research high school.

Dependent Measures

The following research questions focused on the dependent variables for academic achievement, behavior, and school engagement. Student achievement was

determined by (1) end of the year cumulative grade point average, (2) end of the year total credits earned and (3) end of the year norm-referenced EXPLORE Test and end of the year PLAN Test for (*a)* English, (*b*) math, (*c*) reading, (*d*) science, and (*e)* composite total subtest normal curve equivalent (NCE) scores. Behavior data were also collected retrospectively, from the students' end of eighth-grade and end of ninth-grade data. The dependent measures were (a) total office referrals and (b) total days absent for all students. All of these data were collected from the district's PowerSchool student information system where the information was archived at the central office. School engagement data were also collected retrospectively, from the students' end of eighth-grade and end of ninth-grade data. Participation in extracurricular activities served as a proxy measure for school engagement. Students who participated in any type of school-sponsored extracurricular activity, athletics, or clubs during the eighth-grade and ninth-grade school year were identified using the district's PowerSchool student information system. All study achievement data related to each of the dependent variables were retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained before data were collected and analyzed.

Table 1 displays demographic information of individual ninth-grade boys at-risk not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. Table 2 displays demographic information of individual ninth-grade boys at-risk eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. Table 3 displays demographic information of individual ninth-grade

girls at-risk not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. Demographic information of individual ninth-grade girls at-risk eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program is displayed in Table 4.

Research Question #1

Table 5 displays pretest ending eighth-grade compared to posttest ending ninth-grade cumulative grade point average scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The first pretest-posttest hypothesis was tested using the dependent *t* test. As seen in Table 5, the null hypothesis for cumulative grade point average scores over time was not rejected in the direction of lower posttest scores for end of eighth-grade pretest compared to ending ninth-grade posttest cumulative grade point average scores for boys not eligible for participation in the free or reduced price lunch program where: pretest $M = 2.06$, $SD = 0.78$; posttest $M = 1.93$, $SD = 0.81$; $t(12) = -0.82$, $p = .22$ (one-tailed), $d = -0.227$. Also in Table 5, the null hypothesis for cumulative grade point average scores over time was not rejected in the direction of lower posttest scores for end of eighth-grade pretest compared to ending ninth-grade posttest cumulative grade point average scores for boys eligible for participation in the free or reduced price lunch program where: pretest $M = 2.16$, $SD = 0.68$; posttest $M = 1.94$, $SD = 0.94$; $t(8) = -1.01$, $p = .17$ (one-tailed), $d = -0.351$. Also found in Table 5, the null hypothesis for cumulative grade point average scores over time was rejected in the direction of lower posttest scores for end of eighth-grade pretest

compared to ending ninth-grade posttest cumulative grade point average scores for girls not eligible for participation in the free or reduced price lunch program where: pretest M = 2.45, SD = 0.45; posttest M = 2.09, SD = 0.48; $t(6)$ = -2.71, p = .02 (one-tailed), d = -1.074. Also noted in Table 5, the null hypothesis for cumulative grade point average scores over time was rejected in the direction of lower posttest scores for end of eighth-grade pretest compared to ending ninth-grade posttest cumulative grade point average scores for girls eligible for participation in the free or reduced price lunch program where: pretest M = 2.44, SD = 0.41; posttest M = 1.77, SD = 0.34; $t(9)$ = -4.43, p = .001 (one-tailed), d = -1.395.

Research Question #2

Table 6 displays results of Analysis of Variance ending ninth-grade posttest compared to ending ninth-grade posttest cumulative grade point average scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The second hypothesis was tested using Analysis of Variance (ANOVA). Ending ninth-grade posttest cumulative grade point average score posttest-posttest ANOVA results comparisons for (A) boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 1.93, SD = 0.81); (B) boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 1.94, SD = 0.94); (C) girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 2.09, SD = 0.48); and (D) girls eligible for participation in the free or reduced price lunch

program who completed a school-year long academic support study center program (M = 1.77, SD = 0.34). As seen in Table 6, the null hypothesis was not rejected for the cumulative grade point average score posttest-posttest ANOVA results research question #2 comparisons.

The overall main effect of comparisons for ending ninth-grade posttest compared to ending ninth-grade posttest cumulative grade point average scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was not statistically significant, ($F(3, 35) = 0.30$, $p = .83$). Because no significant main effect was found, no *post hoc* contrast analyses were conducted.

Research Question #3

Table 7 displays results of Analysis of Variance ending ninth-grade posttest compared to ending ninth-grade posttest total credits earned scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The third hypothesis was tested using Analysis of Variance (ANOVA). Ending ninth-grade posttest total credits earned score posttest-posttest ANOVA results comparisons for (A) boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 45.62, SD = 13.57); (B) boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 46.22, SD = 15.20); (C) girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 56.57,

SD = 8.22); and (D) girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (*M* = 46.30, *SD* = 8.65). As seen in Table 6, the null hypothesis was not rejected for the cumulative grade point average score posttest-posttest ANOVA results research question #3 comparisons.

The overall main effect of comparisons for ending ninth-grade posttest compared to ending ninth-grade posttest total credits earned scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was not statistically significant, ($F(3, 35) = 1.46$, $p = .24$). Because no significant main effect was found, no *post hoc* contrast analyses were conducted.

Research Question #4

Sub-Question 4a. Table 8 displays pretest ending eighth-grade EXPLORE compared to posttest ending ninth-grade PLAN norm referenced normal curve equivalent test scores for at-risk boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The fourth pretest-posttest hypothesis was tested using the dependent *t* test. As seen in Table 8, the null hypothesis for pretest ending eighth-grade EXPLORE compared to posttest ending ninth-grade PLAN norm referenced normal curve equivalent test scores over time was not rejected for end of eighth-grade pretest compared to ending ninth-grade posttest (A) English Subtest scores where: pretest EXPLORE *M* = 34.31, *SD* = 27.33; posttest PLAN *M* = 37.15, *SD* = 19.80; $t(12) = 0.67$ (in the direction of a higher posttest score), $p = .26$ (one-tailed), $d = 0.211$: (B) Math Subtest scores where: pretest EXPLORE *M* =

50.15, *SD* = 21.87; posttest PLAN *M* = 44.62, *SD* = 20.64; *t*(12) = -1.05 (in the direction of a lower posttest score), *p* = .15 (one-tailed), *d* = -0.293: (C) Reading Subtest scores where: pretest EXPLORE *M* = 44.62, *SD* = 23.41; posttest PLAN *M* = 45.46, *SD* = 17.94; *t*(12) = 0.20 (in the direction of a higher posttest score), *p* = .42 (one-tailed), *d* = 0.059: (D) Science Subtest scores where: pretest EXPLORE *M* = 46.00, *SD* = 24.48; posttest PLAN *M* = 50.92, *SD* = 19.23; *t*(12) = 0.90 (in the direction of a higher posttest score), *p* = .19 (one-tailed), *d* = 0.258: and (E) Composite scores where: pretest EXPLORE *M* = 42.69, *SD* = 23.40; posttest PLAN *M* = 43.23, *SD* = 20.75; *t*(12) = 0.14 (in the direction of a higher posttest score), *p* = .44 (one-tailed), *d* = 0.040.

Sub-Question 4b. Table 9 displays pretest ending eighth-grade EXPLORE compared to posttest ending ninth-grade PLAN norm referenced normal curve equivalent test scores for at-risk boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The fourth pretest-posttest hypothesis was tested using the dependent *t* test. As seen in Table 9, the null hypothesis for pretest ending eighth-grade EXPLORE compared to posttest ending ninth-grade PLAN norm referenced normal curve equivalent test scores over time was not rejected for end of eighth-grade pretest compared to ending ninth-grade posttest (A) English Subtest scores where: pretest EXPLORE *M* = 33.00, *SD* = 7.14; posttest PLAN *M* = 32.78, *SD* = 9.57; *t*(8) = -0.06 (in the direction of a lower posttest score), *p* = .247 (one-tailed), *d* = -0.021: (B) Math Subtest scores where: pretest EXPLORE *M* = 42.78, *SD* = 13.95; posttest PLAN *M* = 39.11, *SD* = 12.26; *t*(8) = -0.56 (in the direction of a lower posttest score), *p* = .29 (one-tailed), *d* = -0.209: (C) Reading Subtest scores where: pretest EXPLORE *M* = 41.67, *SD* = 12.93; posttest PLAN *M* = 35.78, *SD* = 11.32;

t(8) = -0.85 (in the direction of a lower posttest score), *p* = .21 (one-tailed), *d* = -0.469: (D) Science Subtest scores where: pretest EXPLORE *M* = 37.78, *SD* = 14.95; posttest PLAN *M* = 35.67, *SD* = 8.29; *t*(8) = -0.43 (in the direction of a lower posttest score), *p* = .34 (one-tailed), *d* = -0.153: and (E) Composite scores where: pretest EXPLORE *M* = 38.22, *SD* = 10.98; posttest PLAN *M* = 35.67, *SD* = 8.29; *t*(8) = -0.52 (in the direction of a lower posttest score), *p* = .31 (one-tailed), *d* = -0.201.

Sub-Question 4c. Table 10 displays pretest ending eighth-grade EXPLORE compared to posttest ending ninth-grade PLAN norm referenced normal curve equivalent test scores for at-risk girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The fourth pretest-posttest hypothesis was tested using the dependent *t* test. As seen in Table 10, the null hypothesis for pretest ending eighth-grade EXPLORE compared to posttest ending ninth-grade PLAN norm referenced normal curve equivalent test scores over time was rejected for end of eighth-grade pretest compared to ending ninth-grade posttest (A) English Subtest scores where: pretest EXPLORE *M* = 46.00, *SD* = 17.33; posttest PLAN *M* = 38.71, *SD* = 12.33; *t*(6) = -2.13 (in the direction of a lower posttest score), *p* = .04 (one-tailed), *d* = -0.929: however, the null hypothesis for pretest ending eighth-grade EXPLORE compared to posttest ending ninth-grade PLAN norm referenced normal curve equivalent test scores over time was not rejected for end of eighth-grade pretest compared to ending ninth-grade posttest (B) Math Subtest scores where: pretest EXPLORE *M* = 35.71, *SD* = 21.27; posttest PLAN *M* = 43.86, *SD* = 17.76; *t*(6) = 1.05 (in the direction of a higher posttest score), *p* = .17 (one-tailed), *d* = 0.405: (C) Reading Subtest scores where: pretest EXPLORE *M* = 49.14, *SD* = 23.80; posttest PLAN *M* =

43.86, *SD* = 26.42; *t*(6) = -1.39 (in the direction of a lower posttest score), *p* = .11 (one-tailed), *d* = -0.543: (D) Science Subtest scores where: pretest EXPLORE *M* = 43.86, *SD* = 22.19; posttest PLAN *M* = 43.86, *SD* = 26.42; *t*(6) = 0.00 (in the direction of an equivalent posttest score), *p* = .50 (one-tailed), *d* = 0.000: and (E) Composite scores where: pretest EXPLORE *M* = 41.86, *SD* = 23.71; posttest PLAN *M* = 41.43, *SD* = 20.33; *t*(6) = -0.08 (in the direction of a lower posttest score), *p* = .47 (one-tailed), *d* = -0.033.

Sub-Question 4d. Table 11 displays pretest ending eighth-grade EXPLORE compared to posttest ending ninth-grade PLAN norm referenced normal curve equivalent test scores for at-risk girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The fourth pretest-posttest hypothesis was tested using the dependent *t* test. As seen in Table 11, the null hypothesis for pretest ending eighth-grade EXPLORE compared to posttest ending ninth-grade PLAN norm referenced normal curve equivalent test scores over time was not rejected for end of eighth-grade pretest compared to ending ninth-grade posttest (A) English Subtest scores where: pretest EXPLORE *M* = 44.80, *SD* = 18.56; posttest PLAN *M* = 48.40, *SD* = 13.62; *t*(9) = 0.62 (in the direction of a higher posttest score), *p* = .27 (one-tailed), *d* = 0.204: (B) Math Subtest scores where: pretest EXPLORE *M* = 51.50, *SD* = 17.74; posttest PLAN *M* = 48.50, *SD* = 16.82; *t*(9) = -0.49 (in the direction of a lower posttest score), *p* = .31 (one-tailed), *d* = -0.157: (C) Reading Subtest scores where: pretest EXPLORE *M* = 54.90, *SD* = 21.41; posttest PLAN *M* = 52.00, *SD* = 16.36; *t*(9) = -0.47 (in the direction of a lower posttest score), *p* = .32 (one-tailed), *d* = -0.155: (D) Science Subtest scores where: pretest EXPLORE *M* = 40.70, *SD* = 18.69; posttest PLAN *M* = 45.00, *SD* = 18.54; *t*(9) = 0.75 (in the direction of a higher posttest score), *p* = .23

(one-tailed), $d = 0.238$: and (E) Composite scores where: pretest EXPLORE $M = 49.20$, $SD = 15.97$; posttest PLAN $M = 49.10$, $SD = 17.59$; $t(9) = -0.03$ (in the direction of a lower posttest score), $p = .49$ (one-tailed), $d = -0.008$.

Research Question #5

PLAN English Scores. Table 12 displays results of Analysis of Variance ending ninth-grade posttest compared to ending ninth-grade posttest PLAN English subtest norm referenced normal curve equivalent test scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The fifth hypothesis was tested using Analysis of Variance (ANOVA). Ending ninth-grade posttest PLAN English subtest score posttest-posttest ANOVA results comparisons for (A) boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 37.15$, $SD = 19.80$); (B) boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 32.78$, $SD = 9.57$); (C) girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 38.71$, $SD = 12.33$); and (D) girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 48.40$, $SD = 13.62$). As seen in Table 12, the null hypothesis was not rejected for the PLAN English subtest score posttest-posttest ANOVA results research question #5 comparisons.

The overall main effect of comparisons for ending ninth-grade posttest compared to ending ninth-grade posttest PLAN English subtest scores for at-risk boys and girls not

eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was not statistically significant, ($F(3, 35) = 1.85$, $p = .16$). Because no significant main effect was found, no *post hoc* contrast analyses were conducted.

PLAN Math Scores. Table 13 displays results of Analysis of Variance ending ninth-grade posttest compared to ending ninth-grade posttest PLAN Math subtest norm referenced normal curve equivalent test scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The fifth hypothesis was tested using Analysis of Variance (ANOVA). Ending ninth-grade posttest PLAN Math subtest score posttest-posttest ANOVA results comparisons for (A) boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 44.62$, $SD = 20.64$); (B) boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 39.11$, $SD = 12.26$); (C) girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 43.86$, $SD = 17.76$); and (D) girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 48.50$, $SD = 16.82$). As seen in Table 13, the null hypothesis was not rejected for the PLAN Math subtest score posttest-posttest ANOVA results research question #5 comparisons.

The overall main effect of comparisons for ending ninth-grade posttest compared to ending ninth-grade posttest PLAN Math subtest scores for at-risk boys and girls not

eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was not statistically significant, ($F(3, 35) = 0.46$, $p = .71$). Because no significant main effect was found, no *post hoc* contrast analyses were conducted.

PLAN Reading Scores. Table 14 displays results of Analysis of Variance ending ninth-grade posttest compared to ending ninth-grade posttest PLAN Reading subtest norm referenced normal curve equivalent test scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The fifth hypothesis was tested using Analysis of Variance (ANOVA). Ending ninth-grade posttest PLAN Reading subtest score posttest-posttest ANOVA results comparisons for (A) boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 45.46$, $SD = 17.94$); (B) boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 35.78$, $SD = 11.32$); (C) girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 43.86$, $SD = 26.42$); and (D) girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 52.00$, $SD = 16.36$). As seen in Table 14, the null hypothesis was not rejected for the PLAN Reading subtest score posttest-posttest ANOVA results research question #5 comparisons.

The overall main effect of comparisons for ending ninth-grade posttest compared to ending ninth-grade posttest PLAN Reading subtest scores for at-risk boys and girls not

eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was not statistically significant, ($F(3, 35) = 1.28$, $p = .30$). Because no significant main effect was found, no *post hoc* contrast analyses were conducted.

PLAN Science Scores. Table 15 displays results of Analysis of Variance ending ninth-grade posttest compared to ending ninth-grade posttest PLAN Science subtest norm referenced normal curve equivalent test scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The fifth hypothesis was tested using Analysis of Variance (ANOVA). Ending ninth-grade posttest PLAN Science subtest score posttest-posttest ANOVA results comparisons for (A) boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 50.92$, $SD = 19.23$); (B) boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 40.89$, $SD = 11.94$); (C) girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 52.57$, $SD = 22.27$); and (D) girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 45.00$, $SD = 18.54$). As seen in Table 15, the null hypothesis was not rejected for the PLAN Science subtest score posttest-posttest ANOVA results research question #5 comparisons.

The overall main effect of comparisons for ending ninth-grade posttest compared to ending ninth-grade posttest PLAN Science subtest scores for at-risk boys and girls not

eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was not statistically significant, ($F(3, 35) = 0.79$, $p = .51$). Because no significant main effect was found, no *post hoc* contrast analyses were conducted.

PLAN Composite Scores. Table 16 displays results of Analysis of Variance ending ninth-grade posttest compared to ending ninth-grade posttest PLAN Composite subtest norm referenced normal curve equivalent test scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The fifth hypothesis was tested using Analysis of Variance (ANOVA). Ending ninth-grade posttest PLAN Composite subtest score posttest-posttest ANOVA results comparisons for (A) boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 43.23$, $SD = 20.75$); (B) boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 35.67$, $SD = 8.29$); (C) girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 41.43$, $SD = 20.33$); and (D) girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program ($M = 49.10$, $SD = 17.59$). As seen in Table 16, the null hypothesis was not rejected for the PLAN Composite subtest score posttest-posttest ANOVA results research question #5 comparisons.

The overall main effect of comparisons for ending ninth-grade posttest compared to ending ninth-grade posttest PLAN Composite subtest scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was not statistically significant, ($F(3, 35) = 0.92$, $p = .44$). Because no significant main effect was found, no *post hoc* contrast analyses were conducted.

Research Question #6

Sub-Question 6a. Table 17 displays pretest ending eighth-grade compared to posttest ending ninth-grade total office referrals for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The sixth pretest-posttest hypothesis was tested using the dependent *t* test. As seen in Table 17, the null hypothesis for total office referrals over time was not rejected in the direction of lower improved posttest frequencies for end of eighth-grade pretest compared to ending ninth-grade posttest total office referrals for boys not eligible for participation in the free or reduced price lunch program where: pretest $M = 7.23$, $SD = 4.90$; posttest $M = 6.15$, $SD = 7.76$; $t(12) = -0.71$, $p = .25$ (one-tailed), $d = -0.224$. Also in Table 17, the null hypothesis for total office referrals over time was rejected in the direction of lower improved posttest frequencies for end of eighth-grade pretest compared to ending ninth-grade posttest total office referrals for boys eligible for participation in the free or reduced price lunch program where: pretest $M = 14.33$, $SD = 12.33$; posttest $M = 7.00$, $SD = 6.61$; $t(8) = -1.83$, $p = .05$ (one-tailed), $d = -0.658$. Also found in Table 17, the null hypothesis for total office referrals over time was not rejected in the direction of lower improved

posttest frequencies for end of eighth-grade pretest compared to ending ninth-grade posttest total office referrals for girls not eligible for participation in the free or reduced price lunch program where: pretest $M = 1.71$, $SD = 1.49$; posttest $M = 1.57$, $SD = 1.71$; $t(6) = -0.14$, $p = .44$ (one-tailed), $d = -0.074$. Also noted in Table 17, the null hypothesis for total office referrals over time was not rejected in the direction of lower improved posttest frequencies for end of eighth-grade pretest compared to ending ninth-grade posttest total office referrals for girls eligible for participation in the free or reduced price lunch program where: pretest $M = 12.10$, $SD = 10.84$; posttest $M = 9.20$, $SD = 9.35$; $t(9) = -1.57$, $p = .08$ (one-tailed), $d = -0.508$.

Sub-Question 6b. Table 18 displays pretest ending eighth-grade compared to posttest ending ninth-grade total days absent for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The sixth pretest-posttest hypothesis was tested using the dependent *t* test. As seen in Table 18, the null hypothesis for total days absent over time was rejected in the direction of lower improved posttest frequencies for end of eighth-grade pretest compared to ending ninth-grade posttest total days absent for boys not eligible for participation in the free or reduced price lunch program where: pretest $M = 16.38$, $SD = 8.66$; posttest $M = 12.62$, $SD = 8.32$; $t(12) = -4.07$, $p = .001$ (one-tailed), $d = -1.107$. Also in Table 18, the null hypothesis for total days absent over time was not rejected in the direction of lower improved posttest frequencies for end of eighth-grade pretest compared to ending ninth-grade posttest total days absent for boys eligible for participation in the free or reduced price lunch program where: pretest $M = 14.78$, $SD = 6.81$; posttest $M = 14.67$, $SD = 9.02$; $t(8) = -0.06$, $p = .48$

(one-tailed), d = -0.020. Also found in Table 17, the null hypothesis for total days absent over time was not rejected in the direction of higher worsening posttest frequencies for end of eighth-grade pretest compared to ending ninth-grade posttest total days absent for girls not eligible for participation in the free or reduced price lunch program where: pretest M = 9.29, SD = 6.76; posttest M = 10.50, SD = 8.30; $t(6) = 0.35$, p = .37 (one-tailed), d = 0.135. Also noted in Table 18, the null hypothesis for total days absent over time was not rejected in the direction of lower improved posttest frequencies for end of eighth-grade pretest compared to ending ninth-grade posttest total office referrals for girls eligible for participation in the free or reduced price lunch program where: pretest M = 20.05, SD = 7.22; posttest M = 18.30, SD = 9.82; $t(9) = -1.03$, p = .16 (one-tailed), d = -0.363.

Research Question #7

Sub-Question 7a. Table 19 displays results of Analysis of Variance ending ninth-grade posttest compared to ending ninth-grade posttest total office referrals for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The seventh hypothesis was tested using Analysis of Variance (ANOVA). Ending ninth-grade posttest total office referrals posttest-posttest ANOVA results comparisons for (A) boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 6.15, SD = 7.76); (B) boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 7.00, SD = 6.61); (C) girls not eligible for participation in the free or reduced price lunch

program who completed a school-year long academic support study center program (M = 1.57, SD = 1.71); and (D) girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 9.20, SD = 9.35). As seen in Table 19, the null hypothesis was not rejected for the total office referrals posttest-posttest ANOVA results research question #7 comparisons.

The overall main effect of comparisons for ending ninth-grade posttest compared to ending ninth-grade posttest total office referrals frequencies for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was not statistically significant, ($F(3, 35) = 1.52$, $p = .23$). Because no significant main effect was found, no *post hoc* contrast analyses were conducted.

Sub-Question 7b. Table 20 displays results of Analysis of Variance ending ninth-grade posttest compared to ending ninth-grade posttest total days absent for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The seventh hypothesis was tested using Analysis of Variance (ANOVA). Ending ninth-grade posttest total days absent posttest-posttest ANOVA results comparisons for (A) boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 12.62, SD = 8.32); (B) boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 14.67, SD = 9.82); (C) girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 10.50,

SD = 8.32); and (D) girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (*M* = 18.30, *SD* = 9.02). As seen in Table 20, the null hypothesis was not rejected for the total days absent posttest-posttest ANOVA results research question #7 comparisons.

The overall main effect of comparisons for ending ninth-grade posttest compared to ending ninth-grade posttest total days absent frequencies for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was not statistically significant, ($F(3, 35) = 1.26$, $p = .30$). Because no significant main effect was found, no *post hoc* contrast analyses were conducted.

Research Question #8

Table 21 displays pretest ending eighth-grade compared to posttest ending ninth-grade total participation in school sponsored extra curricular activities, athletics, and clubs for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The eighth pretest-posttest hypothesis was tested using the dependent *t* test. As seen in Table 21, the null hypothesis for total participation in school sponsored extra curricular activities, athletics, and clubs over time was not rejected in the direction of higher posttest scores for end of eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs for boys not eligible for participation in the free or reduced price lunch program where: pretest $M = 0.62$, $SD = 0.95$; posttest $M = 0.69$, $SD = 1.18$; $t(12) = 0.37$, $p = .36$ (one-tailed), $d = 0.097$. Also in Table 21, the null hypothesis for total participation in

school sponsored extra curricular activities, athletics, and clubs over time was not rejected in the direction of lower posttest scores for end of eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs for boys eligible for participation in the free or reduced price lunch program where: pretest $M = 1.44$, $SD = 1.81$; posttest $M = 0.67$, $SD = 0.70$; $t(8) = -1.49$, $p = .09$ (one-tailed), $d = -0.626$. Also found in Table 21, the null hypothesis for total participation in school sponsored extra curricular activities, athletics, and clubs over time was not rejected in the direction of higher posttest scores for end of eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs for girls not eligible for participation in the free or reduced price lunch program where: pretest $M = 0.86$, $SD = 0.90$; posttest $M = 1.29$, $SD = 1.37$; $t(6) = 1.16$, $p = .14$ (one-tailed), $d = 0.497$. Also noted in Table 21, the null hypothesis for total participation in school sponsored extra curricular activities, athletics, and clubs over time was not rejected in the direction of higher posttest scores for end of eighth-grade pretest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs for girls eligible for participation in the free or reduced price lunch program where: pretest $M = 0.85$, $SD = 0.74$; posttest $M = 1.25$, $SD = 1.58$; $t(9) = 0.74$, $p = .24$ (one-tailed), $d = 0.353$.

Research Question #9

Table 22 displays results of Analysis of Variance ending ninth-grade posttest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs for at-risk boys and girls not eligible and eligible

for participation in the free or reduced price lunch program who completed a school-year long academic support study center program. The ninth hypothesis was tested using Analysis of Variance (ANOVA). Ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs posttest-posttest ANOVA results comparisons for (A) boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 0.69, SD = 1.18); (B) boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 0.67, SD = 0.70); (C) girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 1.29, SD = 1.37); and (D) girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program (M = 1.25, SD = 1.58). As seen in Table 22, the null hypothesis was not rejected for the total participation in school sponsored extra curricular activities, athletics, and clubs posttest-posttest ANOVA results research question #9 comparisons.

The overall main effect of comparisons for ending ninth-grade posttest compared to ending ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was not statistically significant, ($F(3, 35)$ = 0.70, p = .56). Because no significant main effect was found, no *post hoc* contrast analyses were conducted.

Table 1

Demographic Information of Individual Ninth-Grade Boys At-Risk Not Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Student Number	Gender	Ethnicity	Free or Reduced Price Lunch Program	Special Education
1.	Male	Hispanic	No	No
2.	Male	Caucasian	No	No
3.	Male	Caucasian	No	No
4.	Male	Caucasian	No	No
5.	Male	Caucasian	No	No
6.	Male	Caucasian	No	No
7.	Male	Caucasian	No	No
8.	Male	Caucasian	No	No
9.	Male	Caucasian	No	No
10.	Male	African-American	No	No
11.	Male	Caucasian	No	No
12.	Male	Caucasian	No	No
13.	Male	Caucasian	No	No

Note. All students were in attendance in the research school district eighth-grade through ninth-grade.

Table 2

Demographic Information of Individual Ninth-Grade Boys At-Risk Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Student Number	Gender	Ethnicity	Free or Reduced Price Lunch Program	Special Education
1.	Male	Caucasian	Yes	No
2.	Male	African-American	Yes	No
3.	Male	African-American	Yes	No
4.	Male	African-American	Yes	No
5.	Male	Caucasian	Yes	No
6.	Male	Hispanic	Yes	No
7.	Male	Caucasian	Yes	No
8.	Male	Caucasian	Yes	No
9.	Male	Caucasian	Yes	No

Note. All students were in attendance in the research school district eighth-grade through ninth-grade.

Table 3

Demographic Information of Individual Ninth-Grade Girls At-Risk Not Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Student Number	Gender	Ethnicity	Free or Reduced Price Lunch Program	Special Education
1.	Female	Caucasian	No	No
2.	Female	American Indian	No	No
3.	Female	Caucasian	No	No
4.	Female	Caucasian	No	No
5.	Female	Caucasian	No	No
6.	Female	Caucasian	No	No
7.	Female	Caucasian	No	No

Note. All students were in attendance in the research school district eighth-grade through ninth-grade.

Table 4

Demographic Information of Individual Ninth-Grade Girls At-Risk Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Student Number	Gender	Ethnicity	Free or Reduced Price Lunch Program	Special Education
1.	Female	Caucasian	Yes	No
2.	Female	African-American	Yes	No
3.	Female	Caucasian	Yes	No
4.	Female	African-American	Yes	No
5.	Female	Caucasian	Yes	No
6.	Female	Caucasian	Yes	No
7.	Female	Caucasian	Yes	No
8.	Female	Caucasian	Yes	No
9.	Female	Caucasian	Yes	No
10.	Female	African-American	Yes	No

Note. All students were in attendance in the research school district eighth-grade through ninth-grade.

Table 5

Pretest Ending Eighth-Grade Compared to Posttest Ending Ninth-Grade Cumulative Grade Point Average Scores for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

	Cumulative Grade Point Average Scores						
	Pretest		Posttest				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
A	2.06	(0.78)	1.93	(0.81)	-0.227	-0.82	.22[†]
B	2.16	(0.68)	1.94	(0.94)	-0.351	-1.01	.17[†]
C	2.45	(0.45)	2.09	(0.48)	-1.074	-2.71	.02*
D	2.44	(0.41)	1.77	(0.34)	-1.395	-4.43	.001**

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
[†]*ns.* **p* < .05. ***p* = .001.

Table 6

Results of Analysis of Variance Ending Ninth-Grade Posttest Compared to Ending Ninth-Grade Posttest Cumulative Grade Point Average Scores for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	0.45	0.15	3	0.30	.83[†]
Within Groups	17.67	0.50	35		

Cumulative Grade Point Average Scores	Mean	(*SD)*
$\overline{A}$	1.93	(0.81)
$\overline{B}$	1.94	(0.94)
$\overline{C}$	2.09	(0.48)
$\overline{D}$	1.77	(0.34)

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
[†]*ns.*

Table 7

Results of Analysis of Variance Ending Ninth-Grade Posttest Compared to Ending Ninth-Grade Posttest Total Credits Earned for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	645.14	215.05	3	1.46	.24[†]
Within Groups	5140.45	146.87	35		

Total Credits Earned	Mean	(*SD)*
$\overline{A}$	45.62	(13.57)
$\overline{B}$	46.22	(15.20)
$\overline{C}$	56.57	(8.22)
$\overline{D}$	46.30	(8.65)

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
[†]*ns.*

Table 8

Pretest Ending Eighth-Grade EXPLORE Compared to Posttest Ending Ninth-Grade PLAN Norm Referenced Normal Curve Equivalent Test Scores for At-Risk Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

	Norm Referenced Test Scores						
	Pretest EXPLORE		Posttest PLAN				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
A	34.31	(27.33)	37.15	(19.80)	0.211	0.67	.26†
B	50.15	(21.87)	44.62	(20.64)	-0.293	-1.05	.15†
C	44.62	(23.41)	45.46	(17.94)	0.059	0.20	.42†
D	46.00	(24.48)	50.92	(19.23)	0.258	0.90	.19†
E	42.69	(23.40)	43.23	(20.75)	0.040	0.14	.44†

Note. A = English Subtest; B = Math Subtest; C = Reading Subtest; D = Science Subtest; and E = Composite.
†*ns.*

Table 9

Pretest Ending Eighth-Grade EXPLORE Compared to Posttest Ending Ninth-Grade PLAN Norm Referenced Normal Curve Equivalent Test Scores for At-Risk Boys Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

	Norm Referenced Test Scores						
	Pretest EXPLORE		Posttest PLAN				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
A	33.00	(7.14)	32.78	(9.57)	-0.021	-0.06	.47†
B	42.78	(13.95)	39.11	(12.26)	-0.209	-0.56	.29†
C	41.67	(12.93)	35.78	(11.32)	-0.469	-0.85	.21†
D	37.78	(14.95)	35.67	(8.29)	-0.153	-0.43	.34†
E	38.22	(10.98)	35.67	(8.29)	-0.201	-0.52	.31†

Note. A = English Subtest; B = Math Subtest; C = Reading Subtest; D = Science Subtest; and E = Composite.
†*ns.*

Table 10

Pretest Ending Eighth-Grade EXPLORE Compared to Posttest Ending Ninth-Grade PLAN Norm Referenced Normal Curve Equivalent Test Scores for At-Risk Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

	Norm Referenced Test Scores						
	Pretest EXPLORE		Posttest PLAN				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
A	46.00	(17.33)	38.71	(12.33)	-0.929	-2.13	.04*
B	35.71	(21.27)	43.86	(17.76)	0.405	1.05	.17†
C	49.14	(23.80)	43.86	(26.42)	-0.543	-1.39	.11†
D	43.86	(22.19)	43.86	(26.42)	0.000	0.00	.50†
E	41.86	(23.71)	41.43	(20.33)	-0.033	-0.08	.47†

Note. A = English Subtest; B = Math Subtest; C = Reading Subtest; D = Science Subtest; and E = Composite.
†*ns.* **p* < .05.

Table 11

Pretest Ending Eighth-Grade EXPLORE Compared to Posttest Ending Ninth-Grade PLAN Norm Referenced Normal Curve Equivalent Test Scores for At-Risk Girls Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

	Norm Referenced Test Scores						
	Pretest EXPLORE		Posttest PLAN				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
A	44.80	(18.56)	48.40	(13.62)	0.204	0.62	.27†
B	51.50	(17.74)	48.50	(16.82)	-0.157	-0.49	.31†
C	54.90	(21.41)	52.00	(16.36)	-0.155	-0.47	.32†
D	40.70	(18.69)	45.00	(18.54)	0.238	0.75	.23†
E	49.20	(15.97)	49.10	(17.59)	-0.008	-0.03	.49†

Note. A = English Subtest; B = Math Subtest; C = Reading Subtest; D = Science Subtest; and E = Composite.
†*ns.*

Table 12

Results of Analysis of Variance Ending Ninth-Grade Posttest Compared to Ending Ninth-Grade Posttest PLAN English Subtest Norm Referenced Normal Curve Equivalent Test Scores for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	1273.23	424.41	3	1.85	.16[†]
Within Groups	8023.08	229.23	35		

PLAN English Subtest Norm Referenced Normal Curve Equivalent Test Scores	Mean	(*SD)*
$\overline{A}$	37.15	(19.80)
$\overline{B}$	32.78	(9.57)
$\overline{C}$	38.71	(12.33)
$\overline{D}$	48.40	(13.62)

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
[†]*ns.*

Table 13

Results of Analysis of Variance Ending Ninth-Grade Posttest Compared to Ending Ninth-Grade Posttest PLAN Math Subtest Norm Referenced Normal Curve Equivalent Test Scores for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	421.04	140.35	3	0.46	.71[†]
Within Groups	10759.32	307.41	35		

PLAN Math Subtest Norm Referenced Normal Curve Equivalent Test Scores	Mean	(*SD)*
$\bar{A}$	44.62	(20.64)
$\bar{B}$	39.11	(12.26)
$\bar{C}$	43.86	(17.76)
$\bar{D}$	48.50	(16.82)

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
[†]*ns.*

Table 14

Results of Analysis of Variance Ending Ninth-Grade Posttest Compared to Ending Ninth-Grade Posttest PLAN Reading Subtest Norm Referenced Normal Curve Equivalent Test Scores for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	1261.59	420.53	3	1.28	.30[†]
Within Groups	11489.64	328.28	35		

PLAN Reading Subtest Norm Referenced Normal Curve Equivalent Test Scores	Mean	(*SD)*
$\bar{A}$	45.46	(17.94)
$\bar{B}$	35.78	(11.32)
$\bar{C}$	43.86	(26.42)
$\bar{D}$	52.00	(16.36)

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
[†]*ns.*

Table 15

Results of Analysis of Variance Ending Ninth-Grade Posttest Compared to Ending Ninth-Grade Posttest PLAN Science Subtest Norm Referenced Normal Curve Equivalent Test Scores for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	787.70	262.57	3	0.79	.51[†]
Within Groups	11653.53	332.96	35		

PLAN Science Subtest Norm Referenced Normal Curve Equivalent Test Scores	Mean	(*SD)*
$\bar{A}$	50.92	(19.23)
$\bar{B}$	40.89	(11.94)
$\bar{C}$	52.57	(22.27)
$\bar{D}$	45.00	(18.54)

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
[†]*ns.*

Table 16

Results of Analysis of Variance Ending Ninth-Grade Posttest Compared to Ending Ninth-Grade Posttest PLAN Composite Norm Referenced Normal Curve Equivalent Test Scores for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	869.74	289.91	3	0.92	.44[†]
Within Groups	10986.92	313.91	35		

PLAN Composite Norm Referenced Normal Curve Equivalent Test Scores	Mean	(*SD)*
$\bar{A}$	43.23	(20.75)
$\bar{B}$	35.67	(8.29)
$\bar{C}$	41.43	(20.33)
$\bar{D}$	49.10	(17.59)

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
[†]*ns.*

Table 17

Pretest Ending Eighth-Grade Compared to Posttest Ending Ninth-Grade Posttest Total Office Referrals for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

	Total Office Referrals						
	Pretest		Posttest				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
A	7.23	(4.90)	6.15	(7.76)	-0.224	-0.71	.25†
B	14.33	(12.33)	7.00	(6.61)	-0.658	-1.83	.05*
C	1.71	(1.49)	1.57	(1.71)	-0.074	-0.14	.44†
D	12.10	(10.84)	9.20	(9.35)	-0.508	-1.57	.08†

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
†*ns.* **p* = .05.

Table 18

Pretest Ending Eighth-Grade Compared to Posttest Ending Ninth-Grade Total Days Absent for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

	Total Days Absent						
	Pretest		Posttest				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
A	16.38	(8.66)	12.62	(8.32)	-1.107	-4.07	.001**
B	14.78	(6.81)	14.67	(9.02)	-0.020	-0.06	.48†
C	9.29	(6.76)	10.50	(8.30)	0.135	0.35	.37†
D	20.05	(7.22)	18.30	(9.82)	-0.363	-1.03	.16†

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
†*ns.* ***p* = .001.

Table 19

Results of Analysis of Variance Ending Ninth-Grade Posttest Compared to Ending Ninth-Grade Posttest Total Office Referrals for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	245.30	81.77	3	1.52	.23[†]
Within Groups	1879.01	53.69	35		

Total Office Referrals	Mean	(*SD)*
$\overline{A}$	6.15	(7.76)
$\overline{B}$	7.00	(6.61)
$\overline{C}$	1.57	(1.71)
$\overline{D}$	9.20	(9.35)

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.

[†]*ns.*

Table 20

Results of Analysis of Variance Ending Ninth-Grade Posttest Compared to Ending Ninth-Grade Posttest Total Days Absent for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	298.49	99.50	3	1.26	.30[†]
Within Groups	2765.68	79.02	35		

Total Days Absent	Mean	(*SD)*
$\overline{A}$	12.62	(8.32)
$\overline{B}$	14.67	(9.82)
$\overline{C}$	10.50	(8.32)
$\overline{D}$	18.30	(9.02)

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
[†]*ns.*

Table 21

Pretest Ending Eighth-Grade Compared to Posttest Ending Ninth-Grade Total Participation in School Sponsored Extra Curricular Activities, Athletics, and Clubs for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Total Participation in School Sponsored Extra Curricular Activities, Athletics, and Clubs

	Pretest		Posttest				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
A	0.62	(0.95)	0.69	(1.18)	0.097	0.37	.36†
B	1.44	(1.81)	0.67	(0.70)	-0.626	-1.49	.09†
C	0.86	(0.90)	1.29	(1.37)	0.497	1.16	.14†
D	0.85	(0.74)	1.25	(1.58)	0.353	0.74	.24†

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
†*ns.* ***p* = .001.

Table 22

Results of Analysis of Variance Ending Ninth-Grade Posttest Compared to Ending Ninth-Grade Posttest Total Participation in School Sponsored Extra Curricular Activities, Athletics, and Clubs for At-Risk Boys and Girls Not Eligible and Eligible for Participation in the Free or Reduced Price Lunch Program Who Completed a School-Year Long Academic Support Study Center Program

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	3.27	1.09	3	0.70	.56[†]
Within Groups	54.82	1.57	35		

Total Participation in School Sponsored Extra Curricular Activities, Athletics, and Clubs	Mean	(*SD)*
$\bar{A}$	0.69	(1.18)
$\bar{B}$	0.67	(0.70)
$\bar{C}$	1.29	(1.37)
$\bar{D}$	1.25	(1.58)

Note. A = Boys Not Eligible for Participation in the Free or Reduced Price Lunch Program; B = Boys Eligible for Participation in the Free or Reduced Price Lunch Program; C = Girls Not Eligible for Participation in the Free or Reduced Price Lunch Program; and D = Girls Eligible for Participation in the Free or Reduced Price Lunch Program.
[†]*ns.*

CHAPTER FIVE

Conclusions and Discussion

The following conclusions and discussion may be drawn from the study for each of the nine research questions.

Research Question #1 Conclusion

Overall, pretest-posttest results indicated end of ninth-grade posttest cumulative grade point average scores for at-risk boys not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different over time in the direction of lower cumulative grade point average scores. However, end of ninth-grade posttest cumulative grade point average scores for at-risk girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were statistically different over time in the direction of lower cumulative grade point average scores. Comparing students' posttest cumulative grade point average scores with the research district's grade nomenclature puts their performance in perspective where boys at-risk (A) not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program had mean cumulative grade point average scores of 1.93, which is equivalent to a letter grade average of D+, which attains credit towards academic promotion and graduation. Boys at-risk (B) eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program had mean cumulative grade point average scores of 1.94, which is equivalent to a letter grade average of D+, which attains credit towards academic

promotion and graduation. Girls at-risk (C) not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program had mean cumulative grade point average scores of 2.09, which is equivalent to a letter grade average of C, which attains credit towards academic promotion and graduation. Finally, girls at-risk (D) eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program had mean cumulative grade point average scores of 1.77, which is equivalent to a letter grade average of D+, which attains credit towards academic promotion and graduation.

Research Question #2 Conclusion

Overall, posttest-posttest results of analysis of variance ending ninth-grade posttest mean cumulative grade point average scores for boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different. No *Post hoc* contrast analysis was performed as no statistical main effect was found between (A) boys not eligible for participation in the free or reduced price lunch program, (B) boys eligible for participation in the free or reduced price lunch program, (C) girls not eligible for participation in the free or reduced price lunch program, and (D) girls eligible for participation in the free or reduced price lunch program. Posttest-Posttest equipoise indicates that at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program benefited equally by working for and

obtaining an overall passing, *albeit* low, cumulative grade point average that will support their continuance in high school.

Research Question #3 Conclusion

Overall, posttest-posttest results of analysis of variance ending ninth-grade posttest mean total credits earned for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different. No *Post hoc* contrast analysis was performed as no statistical main effect was found between (A) boys not eligible for participation in the free or reduced price lunch program whose mean credits earned was 45.62, (B) boys eligible for participation in the free or reduced price lunch program mean credits earned was 46.22, (C) girls not eligible for participation in the free or reduced price lunch program mean credits earned was 56.57, and (D) girls eligible for participation in the free or reduced price lunch program mean credits earned was 46.30. Comparing student's mean total credits earned to the expected minimum credits earned threshold for staying on track for graduation helps put the earned credits in perspective. The research school district expected minimum credits earned threshold for staying on track for graduation is 50 credits for students ending the ninth-grade school year, therefore, (A) boys not eligible for participation in the free or reduced price lunch program credit difference was -4.38, (B) boys eligible for participation in the free or reduced price lunch program credit difference was -3.78, (C) girls not eligible for participation in the free or reduced price lunch program credit difference was +6.57, and (D) girls eligible for participation in the free or reduced price lunch program credit difference was -3.70. Even though these mean scores may fall short of the ideal credits

earned threshold of 50, the credits may be recovered through enrollment in summer school, additional courses during their sophomore year, or online courses to keep the student on track for graduation.

Research Question #4 Conclusion

Sub-Question 4a. Overall, pretest-posttest results indicated end of ninth-grade posttest PLAN norm referenced normal curve equivalent test scores for at-risk boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different over time in the direction of higher PLAN test scores for (A) English subtest, lower PLAN test scores for (B) Math subtest, higher PLAN test scores for (C) Reading subtest, higher PLAN test scores for (D) Science subtest, and higher PLAN test scores for (E) Composite score. Comparing students' posttest PLAN scores with stanine numerical and category nomenclature helps put their test scores in perspective where (A) English was measured in stanine 4 (the lowest stanine in the average range), (B) Math was measured in stanine 5 (the middle stanine in the average range), (C) Reading was measured in stanine 5 (the middle stanine in the average range), (D) Science was measured in stanine 5 (the middle stanine in the average range), and (E) Composite was measured in stanine 4 (the lowest stanine in the average range).

Sub-Question 4b. Overall, pretest-posttest results indicated end of ninth-grade posttest PLAN norm referenced normal curve equivalent test scores for at-risk boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different over time in the direction of lower PLAN test scores for (A) English subtest, lower PLAN

test scores for (B) Math subtest, lower PLAN test scores for (C) Reading subtest, lower PLAN test scores for (D) Science subtest, and lower PLAN test scores for (E) Composite score. Comparing students' posttest PLAN scores with stanine numerical and category nomenclature helps put their test scores in perspective where (A) English was measured in stanine 3 (the highest stanine in the below average range), (B) Math was measured in stanine 4 (the lowest stanine in the average range), (C) Reading was measured in stanine 4 (the lowest stanine in the average range), (D) Science was measured in stanine 4 (the lowest stanine in the average range), and (E) Composite was measured in stanine 4 (the lowest stanine in the average range).

Sub-Question 4c. Overall, pretest-posttest results indicated end of ninth-grade posttest PLAN norm referenced normal curve equivalent test scores for at-risk girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program was statistically different over time in the direction of lower PLAN test scores for (A) English subtest, however, were not statistically different over time in the direction of higher PLAN test scores for (B) Math subtest, lower PLAN test scores for (C) Reading subtest, equivalent PLAN test scores for (D) Science subtest, and lower PLAN test scores for (E) Composite score. Comparing students' posttest PLAN scores with stanine numerical and category nomenclature helps put their test scores in perspective where (A) English was measured in stanine 4 (the lowest stanine in the average range), (B) Math was measured in stanine 4 (the lowest stanine in the average range), (C) Reading was measured in stanine 4 (the lowest stanine in the average range), (D) Science was measured in stanine 4 (the lowest stanine in the average range), and (E) Composite was measured in stanine 4 (the lowest

stanine in the average range).

Sub-Question 4d. Overall, pretest-posttest results indicated end of ninth-grade posttest PLAN norm referenced normal curve equivalent test scores for at-risk girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different over time in the direction of higher PLAN test scores for (A) English subtest, lower PLAN test scores for (B) Math subtest, lower PLAN test scores for (C) Reading subtest, higher PLAN test scores for (D) Science subtest, and lower PLAN test scores for (E) Composite score. Comparing students' posttest PLAN scores with stanine numerical and category nomenclature helps put their test scores in perspective where (A) English was measured in stanine 5 (the middle stanine in the average range), (B) Math was measured in stanine 5 (the middle stanine in the average range), (C) Reading was measured in stanine 5 (the middle stanine in the average range), (D) Science was measured in stanine 5 (the middle stanine in the average range), and (E) Composite was measured in stanine 5 (the middle stanine in the average range).

Research Question #5 Conclusion

PLAN English Scores. Overall, posttest-posttest results of analysis of variance ending ninth-grade posttest mean PLAN English subtest norm referenced normal curve equivalent test scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different. No *Post hoc* contrast analysis was performed as no statistical main effect was found between (A) boys not eligible for participation in the free or reduced price lunch program whose mean PLAN

English subtest norm referenced normal curve equivalent test score was 35.15 measured within the average range, (B) boys eligible for participation in the free or reduced price lunch program mean PLAN English subtest norm referenced normal curve equivalent test score was 32.78 measured within the below average range, (C) girls not eligible for participation in the free or reduced price lunch program mean PLAN English subtest norm referenced normal curve equivalent test score was 38.71 measured within the average range, and (D) girls eligible for participation in the free or reduced price lunch program mean PLAN English subtest norm referenced normal curve equivalent test score was 48.40 measured within the average range.

PLAN Math Scores. Overall, posttest-posttest results of analysis of variance ending ninth-grade posttest mean PLAN Math subtest norm referenced normal curve equivalent test scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different. No *Post hoc* contrast analysis was performed as no statistical main effect was found between (A) boys not eligible for participation in the free or reduced price lunch program whose mean PLAN Math subtest norm referenced normal curve equivalent test score was 44.62 measured within the average range, (B) boys eligible for participation in the free or reduced price lunch program mean PLAN Math subtest norm referenced normal curve equivalent test score was 39.11 measured within the average range, (C) girls not eligible for participation in the free or reduced price lunch program mean PLAN Math subtest norm referenced normal curve equivalent test score was 43.86 measured within the average range, and (D) girls eligible for participation in the free or reduced price lunch program mean PLAN

Math subtest norm referenced normal curve equivalent test score was 48.50 measured within the average range.

PLAN Reading Scores. Overall, posttest-posttest results of analysis of variance ending ninth-grade posttest mean PLAN Reading subtest norm referenced normal curve equivalent test scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different. No *Post hoc* contrast analysis was performed as no statistical main effect was found between (A) boys not eligible for participation in the free or reduced price lunch program whose mean PLAN Reading subtest norm referenced normal curve equivalent test score was 45.46 measured within the average range, (B) boys eligible for participation in the free or reduced price lunch program mean PLAN Reading subtest norm referenced normal curve equivalent test score was 35.78 measured within the average range, (C) girls not eligible for participation in the free or reduced price lunch program mean PLAN Reading subtest norm referenced normal curve equivalent test score was 43.86 measured within the average range, and (D) girls eligible for participation in the free or reduced price lunch program mean PLAN Reading subtest norm referenced normal curve equivalent test score was 52.00 measured within the average range.

PLAN Science Scores. Overall, posttest-posttest results of analysis of variance ending ninth-grade posttest mean PLAN Science subtest norm referenced normal curve equivalent test scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different. No *Post hoc* contrast

analysis was performed as no statistical main effect was found between (A) boys not eligible for participation in the free or reduced price lunch program whose mean PLAN Science subtest norm referenced normal curve equivalent test score was 50.92 measured within the average range, (B) boys eligible for participation in the free or reduced price lunch program mean PLAN Science subtest norm referenced normal curve equivalent test score was 40.89 measured within the average range, (C) girls not eligible for participation in the free or reduced price lunch program mean PLAN Science subtest norm referenced normal curve equivalent test score was 52.57 measured within the average range, and (D) girls eligible for participation in the free or reduced price lunch program mean PLAN Science subtest norm referenced normal curve equivalent test score was 45.00 measured within the average range.

PLAN Composite Scores. Overall, posttest-posttest results of analysis of variance ending ninth-grade posttest mean PLAN Composite norm referenced normal curve equivalent test scores for at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different. No *Post hoc* contrast analysis was performed as no statistical main effect was found between (A) boys not eligible for participation in the free or reduced price lunch program whose mean PLAN Composite norm referenced normal curve equivalent test score was 43.23 measured within the average range, (B) boys eligible for participation in the free or reduced price lunch program mean PLAN Composite norm referenced normal curve equivalent test score was 35.67 measured within the average range, (C) girls not eligible for participation in the free or reduced price lunch program mean PLAN Composite norm

referenced normal curve equivalent test score was 41.43 measured within the average range, and (D) girls eligible for participation in the free or reduced price lunch program mean PLAN Composite norm referenced normal curve equivalent test score was 49.10 measured within the average range.

Research Question #6 Conclusion

Sub-Question 6a. Overall, pretest-posttest results indicated end of ninth-grade posttest total office referrals for at-risk boys not eligible and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different over time in the direction of lower total office referral frequencies. However, end of ninth-grade posttest total office referrals for at-risk boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were statistically different over time in the direction of lower total office referral frequencies. Comparing students' posttest total office referral frequencies indicates a reduction in the overall office referrals for (A) boys not eligible for participation in the free or reduced price lunch program office referral difference was -1.08, (B) boys eligible for participation in the free or reduced price lunch program office referral difference was -7.33, (C) girls not eligible for participation in the free or reduced price lunch program office referral difference was -0.14, and (D) girls eligible for participation in the free or reduced price lunch program office referral difference was -2.90. Because a reduction in office referrals was consistent among all groups this pattern of behavior improvement can be attributed to student participation in the school-year long academic support study center program.

Sub-Question 6b. Overall, pretest-posttest results indicated end of ninth-grade posttest total days absent for at-risk boys eligible and girls eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different over time in the direction of lower total days absent. Girls not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different over time in the direction of higher total days absent. However, end of ninth-grade posttest total days absent for at-risk boys not eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were statistically different over time in the direction of lower total days absent. Comparing students' posttest total days absent frequencies indicates a reduction in the overall rate of absences for (A) boys not eligible for participation in the free or reduced price lunch program days absent difference was -3.76, (B) boys eligible for participation in the free or reduced price lunch program days absent difference was -0.11, and (D) girls eligible for participation in the free or reduced price lunch program days absent difference was -1.75. Finally, (C) girls not eligible for participation in the free or reduced price lunch program reported a days absent increase of +1.21. Because a reduction in days absent was consistent among three groups this pattern of behavior improvement can be attributed to student participation in the school-year long academic support study center program.

Research Question #7 Conclusion

Sub-Question 7a. Overall, posttest-posttest results of analysis of variance ending ninth-grade posttest mean total office referrals for boys and girls not eligible and eligible

for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different. No *Post hoc* contrast analysis was performed as no statistical main effect was found between (A) boys not eligible for participation in the free or reduced price lunch program, (B) boys eligible for participation in the free or reduced price lunch program, (C) girls not eligible for participation in the free or reduced price lunch program, and (D) girls eligible for participation in the free or reduced price lunch program. Posttest-Posttest equipoise indicates that at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program all benefited equally.

Sub-Question 7b. Overall, posttest-posttest results of analysis of variance ending ninth-grade posttest mean total days absent for boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different. No *Post hoc* contrast analysis was performed as no statistical main effect was found between (A) boys not eligible for participation in the free or reduced price lunch program, (B) boys eligible for participation in the free or reduced price lunch program, (C) girls not eligible for participation in the free or reduced price lunch program, and (D) girls eligible for participation in the free or reduced price lunch program. Posttest-Posttest equipoise indicates that at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program all benefited equally.

Research Question #8 Conclusion

Overall, pretest-posttest results indicated end of ninth-grade posttest total participation in school sponsored extra curricular activities, athletics, and clubs for at-risk boys not eligible and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different over time in the direction of total participation in school sponsored extra curricular activities, athletics, and clubs. However, end of ninth-grade posttest for at-risk boys eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different over time in the direction of lower total participation in school sponsored extra curricular activities, athletics, and clubs. Comparing students' posttest total participation in school sponsored extra curricular activities, athletics, and clubs indicates an increase in participation for (A) boys not eligible for participation in the free or reduced price lunch program difference was +0.07, (B) boys eligible for participation in the free or reduced price lunch program difference was -0.83, (C) girls not eligible for participation in the free or reduced price lunch program difference was +0.43, and (D) girls eligible for participation in the free or reduced price lunch program difference was +0.40. Because an increase in total participation in school sponsored extra curricular activities, athletics, and clubs was consistent among three groups this pattern of participation for these at-risk students can be attributed to student participation in the school-year long academic support study center program.

Research Question #9 Conclusion

Overall, posttest-posttest results of analysis of variance ending ninth-grade

posttest mean participation in school sponsored extra curricular activities, athletics, and clubs for boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program were not statistically different. No *Post hoc* contrast analysis was performed as no statistical main effect was found between (A) boys not eligible for participation in the free or reduced price lunch program, (B) boys eligible for participation in the free or reduced price lunch program, (C) girls not eligible for participation in the free or reduced price lunch program, and (D) girls eligible for participation in the free or reduced price lunch program. Posttest-Posttest equipoise indicates that at-risk boys and girls not eligible and eligible for participation in the free or reduced price lunch program who completed a school-year long academic support study center program all participated equally.

Discussion

The transition from middle school to high school can be a difficult time for any student, but students at-risk face even more challenges as the ninth-grade year is critical in paving the way towards graduation. The students who completed the school-year long academic support study center program clearly benefited from this intervention in a variety of areas. Although the overall grade point average of girls eligible and not eligible for participation in the free or reduced price lunch program decreased during the ninth-grade year, it is difficult to predict what the girls overall grade point average would be without the program. The data on the norm referenced normal curve equivalent tests also indicated that each of the participant groups maintained their relative stanine position from eighth to ninth-grade with the exception of one group. Girls not eligible for

participation in the free or reduced price lunch program did perform statistically lower on the English subtest. The posttest number of total office referrals was lower for all four participant groups with boys eligible for participation in the free or reduced price lunch program showing significance. One of the characteristics of the school-year long academic support study center program is that students are assigned to the study center during periods they do not have class. This cuts down on the interactions in larger, less supervised areas like the cafeteria, hallways, and study areas. It also gives students a trusted adult advocate who can build positive relationships and act *in loco parentis* beyond the scope of the traditional teacher. Attendance increased in three of the four participant groups with boys not eligible for participation in the free or reduced price lunch program showing a significant improvement. Having a consistent location, a scheduled time that meets everyday, and adults who hold students accountable builds a sense of belonging. When students feel connected to school their attendance should improve. Students who completed the school-year long academic support study center program also were more involved in school activities. Having an adult push students to succeed, try new things and enjoy the variety of extracurricular offerings can have a positive impact on self-esteem. No *Post hoc* contrast analysis was performed in any of the research categories as no statistical main effect was found between any of the participant groups. This indicates the completion a school-year long academic support study center program was mutually effective for (A) boys not eligible for participation in the free or reduced price lunch program, (B) boys eligible for participation in the free or reduced price lunch program, (C) girls not eligible for participation in the free or reduced price lunch program, and (D) girls eligible for participation in the free or reduced price

lunch program. The school-year long academic support study center program for ninth-grade students is an intervention that starts immediately for identified at-risk students to help them be academically successful, engaged in school, and on track for graduation.

Implications for practice. It is during the early adolescence years that many students begin failing academically, have increased absenteeism, and struggle with school. By the ninth-grade many of these students would be considered at-risk for not completing high school (Balfanz, 2011). Districts are increasingly trying to develop a means for early identification of potential dropouts and typically use credits earned, attendance, and grade point average as key indicators to identify struggling students (Neild, 2009; Harris, 2009). The practice used by the research school in identifying and then placing students in a school-year long academic support study center program for ninth-grade students appears to be working effectively based on the results of this study. The incoming at-risk freshmen students are identified using eighth-grade attendance, office referrals, course grades, and input from middle school counselors. Students at-risk of dropping out need more than the typical high school day, they need extended learning opportunities to support academic rigor, increase student engagement, and build supportive relationships (Harris, 2009). Utilizing the opportunity to, in essence, capture these students during the school day and provide guidance, academic support and structure is a practice that needs to be continued.

Implications for policy. More than ever, it is the responsibility of every district and school to demonstrate through their actions, that a high quality education is not optional for our youth. Schools cannot sit back and wait for students to fail before they act. Early identification of students at-risk of not graduating and early implementation of

intervention strategies to help these students be successful is critical (Duke & Jacobsen, 2011). School districts must accept the reality that at-risk students require additional supports from teachers and administrators to include *in loco parentis* action beyond the scope of the traditional school day. Once students are in school, teachers, counselors, and administrators must work together to provide meaningful and substantive learning experiences that cultivate student interest and foster the intrinsic desire to learn and grow Proactive support systems and research-driven intervention strategies are the only options to consider when it comes to meeting the needs of at-risk students. The research school and district continue to see an increase in low socio-economic students and at-risk students, so continuing the school-year long academic support study center program for freshmen, and even looking at expanding it to at-risk sophomores, is recommended.

Implications for further research. Completion of the school-year long academic support study center program was found to be a positive intervention for many of the students in regards to academic success, improved attendance, decreased office referrals and increased school engagement. However, the program only exists for ninth-grade students and once the program is over the students are expected to continue through high school with less support. Therefore, additional research must be conducted on how to best ensure that students are provided the necessary support in the tenth, eleventh and twelfth-grade years. Longitudinal studies following these students through graduation may provide insight on the need for further interventions, areas of struggle and what impact a positive ninth-grade year ultimately had on their graduation progress. There are students who completed the school-year long academic support study center program and are still not successfully reaching the benchmarks set for attendance, achievement and

behavior that will need a different set of interventions to get back on track for graduation. Finally, well defined, early intervention strategies need to be implemented and data collected to identify which strategies are indeed making the difference for at-risk students and increasing the graduation rate.

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